THIRD SERIES VOL 65 NUMBER 11 SEPTEMBER 1958

SEP 25 1958

66 PORTLAND PLACE LONDON W1 · THREE SHILLINGS AND SIXPENCE

Brunel House, Cheyne Walk, Chelsea. Architects: Edward Armstrong [F] and Frederick MacManus [F]

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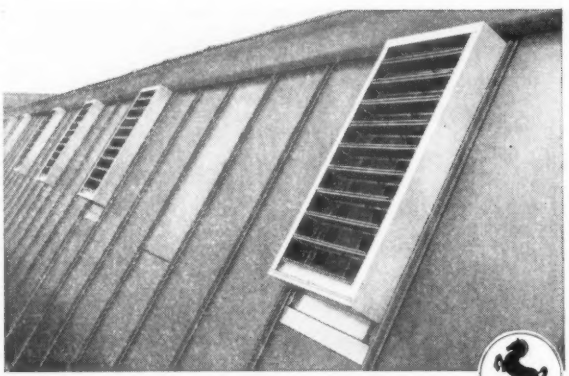

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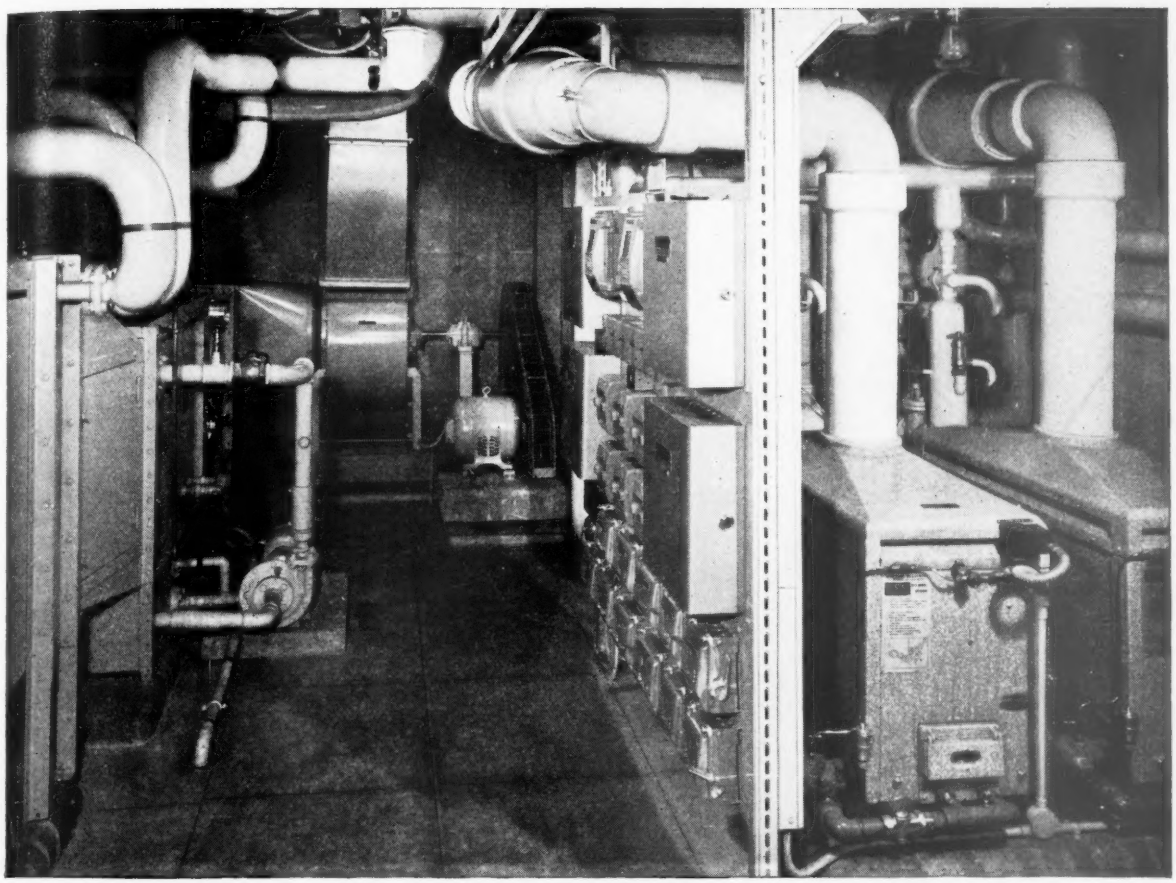

Architects: Waterhouse & Ripley

A high velocity system of air distribution ducts radiates from this compact plant chamber in the new West End offices of the Hanover Bank. The plant was designed and installed by

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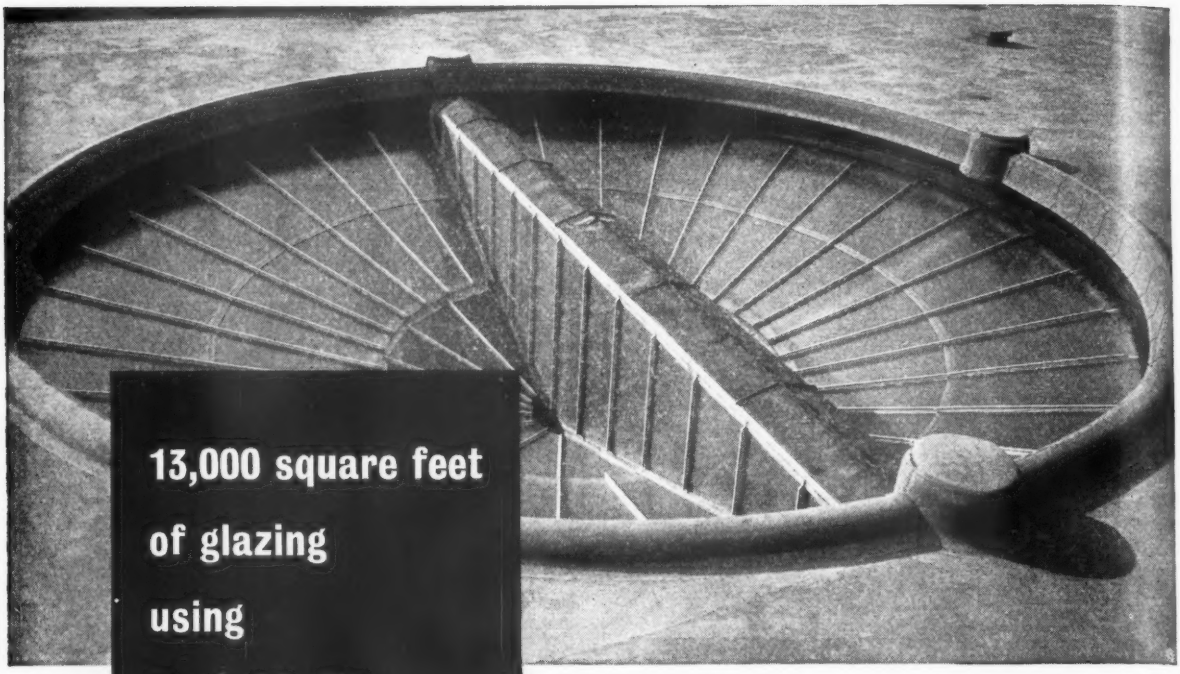
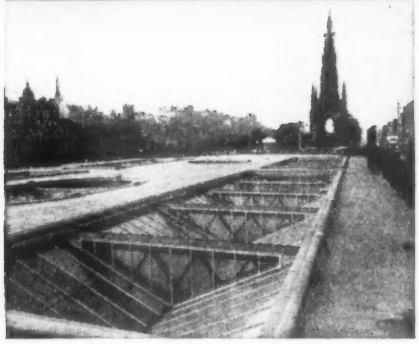
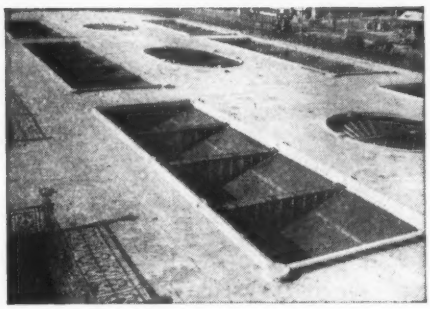


13,000 square feet of glazing using Reynolds T.I. Aluminium





Wherever you see glazing PLUS — look for Reynolds T.I. Aluminium glazing bars. Here they are again in the installation by Pennycook Patent Glazing Co. Ltd., Glasgow, at Waverley Market, Edinburgh.

REYNOLDS T.I. ALUMINIUM LTD.

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For a long time Gas and Water Authorities have recognised the many advantages of copper tubing which enable it to fulfil admirably all the normal requirements of Gas and Water Service installations. There are instances, however, where, for economy of installation or in certain isolated districts where adverse soil conditions are known to exist, tubing has to be laid in aggressive surroundings, and in these circumstances it is necessary to apply some form of protection.

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"KUTERLEX B.S. 659" tubing is ideally suitable for gas service lines. It comprises normal B.S. 659 copper tubes sheathed with 0·020" thick seamless black P.V.C. cover and made in $\frac{1}{2}$", $\frac{3}{4}$" and 1" nominal sizes (half-hard temper) in standard 18 ft. straight lengths.

"KUTERLEX B.S. 1386" is ideal for underground water pipelines. It comprises normal B.S. 1386 soft copper tubes sheathed with black seamless polythene and supplied in standard 60 ft. coils, although other lengths can be made specially. In sizes $\frac{1}{2}$" and $\frac{3}{4}$" the covering is 1/32" thick and in 1" and $1\frac{1}{4}$" sizes the covering is 1/16" thick.

"KUTERLEX" tubing can be readily bent and manipulated and can be easily and quickly jointed by "Yorkshire" capillary fittings or "Instantor", "Kuterlite" or "Coneor" compression fittings.

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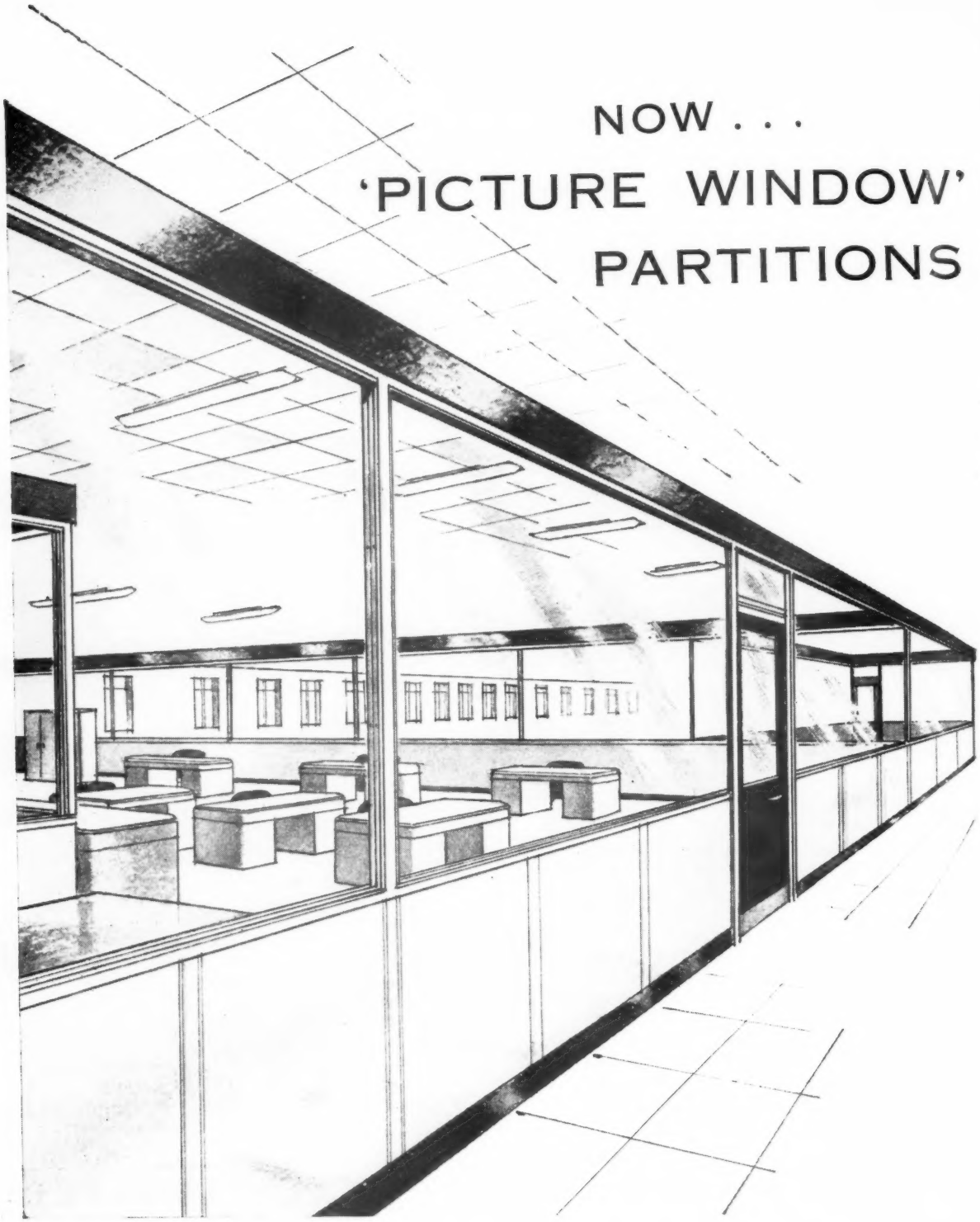
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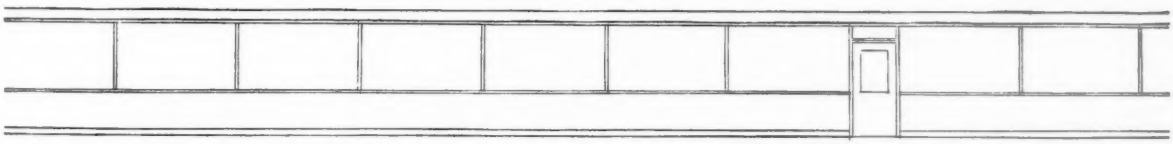
'Picture Window' steel partitions, with their wide, unimpeded spans of glass, create a sense of space and visual freedom in keeping with modern architectural concepts while retaining all the practical advantages of Sankey-Sheldon flush partitioning. Apart from the new scope provided for more effective interior design, the admission of maximum daylight is an important functional advantage in view of the current trend towards larger floor areas. Assembled from standard component parts, 'Picture Window' partitions are economical and competitively priced.

You are invited to write to Sankey-Sheldon for further information.



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monthly review by WILLIAMS & WILLIAMS

CANADA'S NEWEST HOTEL HAS THE 'WALLSPAN' LOOK

1 The entire cladding contract for the new Lord Simcoe Hotel (the second largest in Canada) was placed with Williams & Williams. And 'Wallspan' is used for the vast areas of curtain walling.

The 20 stories of this 900 room, 10 million dollar hotel make an imposing addition to Toronto's skyline. Viewed from a distance, the giant structure appears to be bathed in a greenish aura. This strangely impressive effect is obtained by the combination of green porcelain enamelling and grey muroglass infilling panels.

All of the vertical columns and horizontal trims of the curtain wall are covered by the green porcelain enamelled panels. This looks to be a grey-green colour when reflected by the muroglass—33,000 square feet of it in the spandrels of the 'Wallspan' grid.

Williams & Williams purpose-made aluminium windows were used in the 'Wallspan'. And the actual arrangement of the windows over 'divided' infill panels is somewhat unusual.

Apart from the aesthetic considerations, a valuable point in favour of using 'Wallspan' was its speed of erection. In this particular instance, the choice of 'Wallspan' curtain walling effected a considerable saving in time—from the moment the first sod was dug to the official opening ceremony, took only seventeen months.

'ALOMEGA' WINDOWS EXCEED ARCHITECT'S EXPECTATIONS

2 The Wellington Hotel, Hastings, situated right beside the sea, now boasts a proud new facade. And its 'Alomega' windows, invulnerable to the corrosive action of salt-laden sea air, have been widely praised. The architect himself, had several enthusiastic things to say about them.

"I am very pleased indeed with the 'Alomega' windows," he writes. "They have certainly exceeded all my expectations and are draught and weatherproof. The tenants are equally amazed at their efficiency and simplicity.

"I have had many pleasing comments from my friends on the appearance of the windows, and I shall use them wherever I can after the testing they have had in this very exposed position."

SPACIOUS SHOWROOM HOUSES PERMANENT EXHIBITION

3 The modern London showroom at 36 High Holborn, W.C.1. contains a comprehensive selection of Williams & Williams products. Here, in comfort and at your convenience, you can view and examine examples of all the products mentioned on this page. This is a *permanent* exhibition of the latest developments by Williams & Williams. It is open daily from 9 a.m. to 5.30 p.m.

THE CASE OF THE FLYING WINDOW

4 It would perhaps be a slight exaggeration to say that the team of Williams & Williams window fixers got the full red carpet treatment when they landed at Lima Airport. Nevertheless, the window that they brought with them *was* inspected by the President of Peru. And a huge and valuable contract *did* go to Williams & Williams.

The events leading up to this happy occasion were triggered off by an invitation to Williams & Williams. They were asked (at rather short notice) to quote (in competition with the Americans) for the windows, which were to be made of aluminium, for the new Lima Hospital.

Seven men worked round the clock for seven days (over the Easter holiday, as it turned out). The result was that the tender and drawings were flown out in the nick of time before the closing date.

Williams & Williams price turned out to be easily the lowest. But in the meantime the Peruvian authorities, in some inexplicable way, had got hold of an idea that our windows might possibly be inferior to those made on the other side of the Atlantic. We were asked to prove different!

We pulled out all the stops and made a sample window (to specification) in one week. Thereupon the aforementioned team of fixers plus window were loaded into a fast aeroplane and flown to Miami. There they but paused to take breath (and change aeroplanes) before continuing to Lima. The rest of the story you know.

'WALLSPAN' PRESCRIBED FOR MILLBROOK CLINIC

5 This clinic has to provide maternity, child welfare, school medical and dental services for the entire development carried out by the Southampton Borough Council at Millbrook. The building contains an unusually large number of small rooms, which required varying degrees of natural daylight, ventilation and privacy. Conventional fenestration would have led to an unhappily fussy facade, and therefore it was decided that the main elevations should be treated as all embracing window walls, within which variations in sizes and types of windows could readily and tidily be made. These window walls are in fact areas of Williams & Williams 'Wallspan'. The floors and roofs are carried by the load bearing cross-walls.

In the construction, special steps were taken to give added protection against the spread of fire and to eliminate airborne sound between rooms and stories. The gaps between the mullions and crosswalls at the reveals are closed with a felt-lined, recessed timber closing member; and the horizontal gap between the first floor beams and the curtain wall is closed by carrying the insulation board false ceiling right up to the 'Wallspan' transoms.

Buildings that already existed nearby were a school, the community centre, garages and shops. And the general appearance of these was taken into account when designing the clinic's external finish. On the ground floor, 'Wallspan' infilling panels are of hydraulically pressed asbestos cement slabs. First floor infillings are of grooved western red cedar.

WILLIAMS & WILLIAMS
RELIANCE WORKS · CHESTER

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1 THE LORD SIMCOE HOTEL, TORONTO
Architect: H. T. Langston.

2 THE WELLINGTON HOTEL, HASTINGS
Architect: Norman A. E. Wyatt, L.R.I.B.A., F.I.A.S.

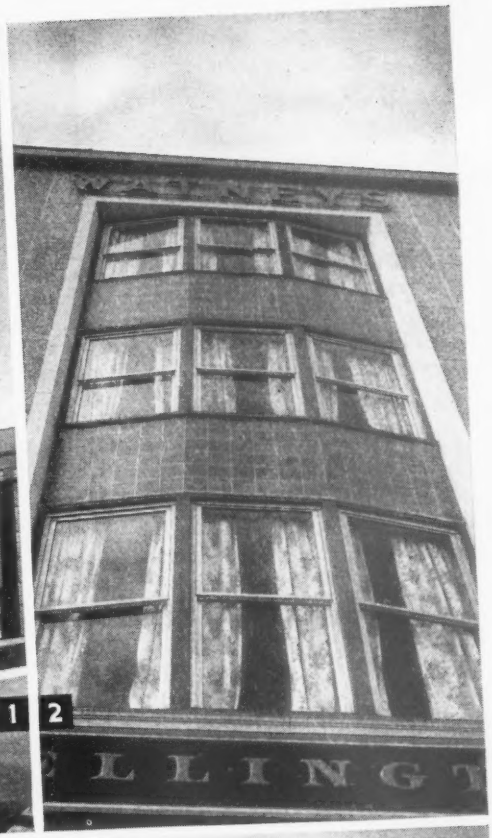
3 WILLIAMS & WILLIAMS NEW SHOWROOM
Architects: Bronek Katz & R. Vaughan.

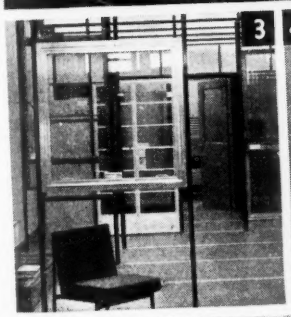
4 THE LIMA HOSPITAL, PERU
Architect: Ricardo Malachowski.

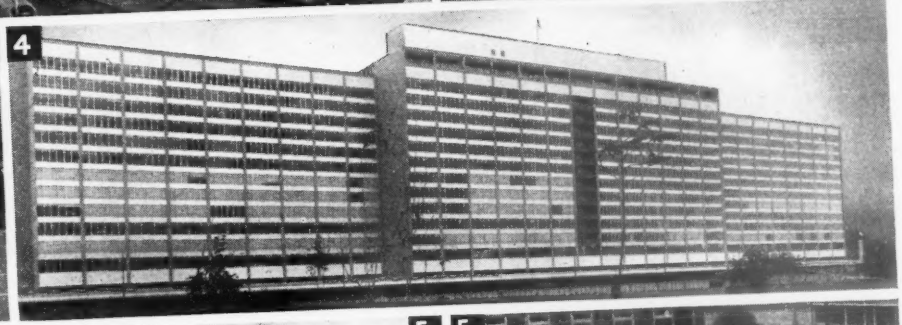
5 THE MILLBROOK CLINIC
Architect: L. Berger, DIP.ARCH., A.R.I.B.A.
Borough Architect, Southampton.

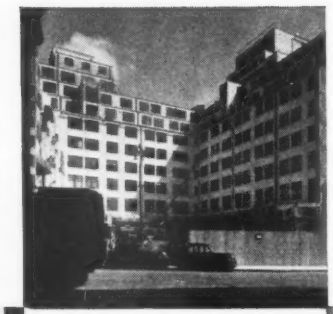
A *View from North-West with entrance to school medical wing.*

B *General view. Covered way from gates leading to maternity waiting room.*







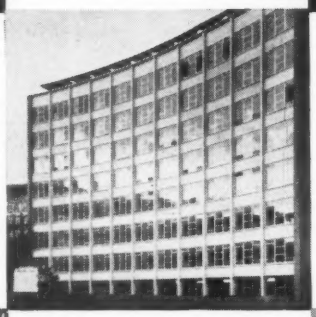


PLANTATION HOUSE
MINCING LANE · CHEAPSIDE
Architects:
Albert W. Moore & Son

ROMAN HOUSE · LONDON WALL
Architect:
R. N. Wakelin
of Campbell-Jones & Sons

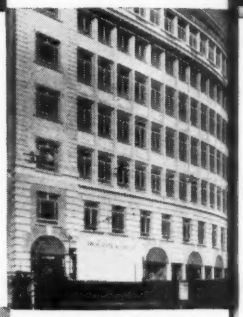
MERCERS' HALL · CHEAPSIDE
Architects:
Gunton & Gunton

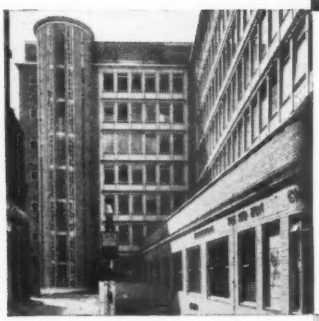
HOLBORN VIADUCT HOUSE
HOLBORN CIRCUS
Architects:
T. P. Bennett & Son



1 NOBLE STREET
GRESHAM STREET
Architects:
Ellis, Clarke & Gallannaugh

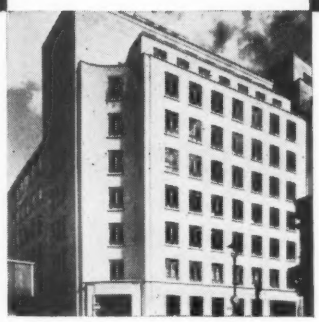
ROYAL LONDON HOUSE
(EXTENSION) FINSBURY SQUARE
Architect:
H. Bramhill





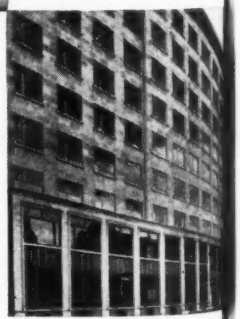
WATLING HOUSE
CANNON STREET
Architects:
Easton & Robertson

34-35 KING STREET · EC
Architects:
Alan W. Pipe & Sons

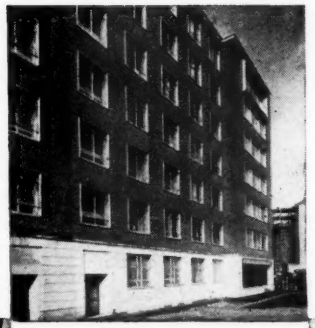


WALBROOK HOUSE
CANNON STREET · WALBROOK
Architect:
Henry Tanner

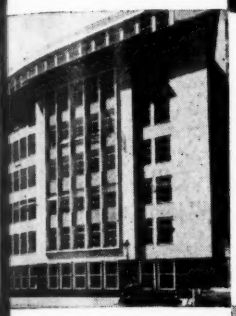
12-20 CAMOMILE STREET
Architects:
Fitzroy Robinson
& Hubert H. Bull



McCANN-ERICKSON HOUSE
FETTER LANE
Architects:
Hannen & Markham



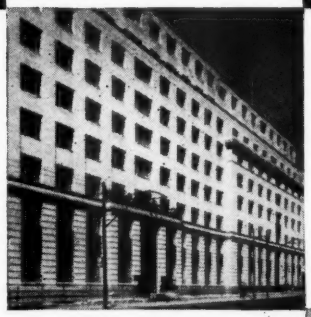
BUCKLERSBURY HOUSE
Architects:
Campbell-Jones & Sons



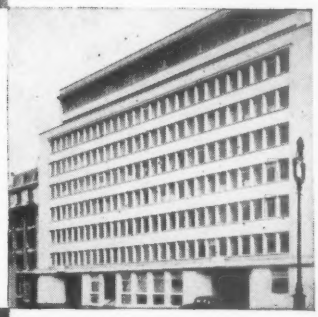
ST. BRIDGET'S HOUSE
BRIDEWELL PLACE
Architects:
Trehearne &
Norman Preston & Partners

SADDLERS' HALL · GUTTER LANE
Architect:
L. Sylvester Sullivan

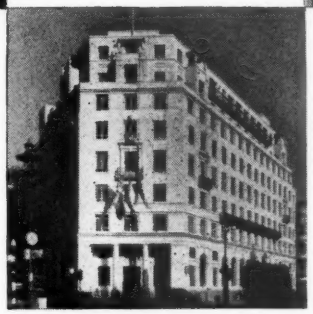
3-10 FINSBURY SQUARE
Architects:
Lewis Solomon Son & Joseph



THE AMALGAMATED PRESS
FARRINGDON STREET
Architects:
Ellis, Clarke & Gallannaugh



The city re-builds with...



BANK OF LONDON
& SOUTH AMERICA
QUEEN VICTORIA STREET
Architect:
Victor Heal

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CHOSEN FOR THE PLANETARIUM

Architect: George Watt, Esq., A.R.I.B.A.

Another tribute to Cox for auditorium seating! The Planetarium recently opened in London has a seating capacity of five hundred and fifty five, and Cox were responsible for the manufacture and installation of the tip-up chairs.

Cox were responsible also for the seating at the Royal Festival Hall and the Manchester Free Trade Hall.

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Typical Cox Seating

Cox TIP-UP AUDITORIUM SEATING

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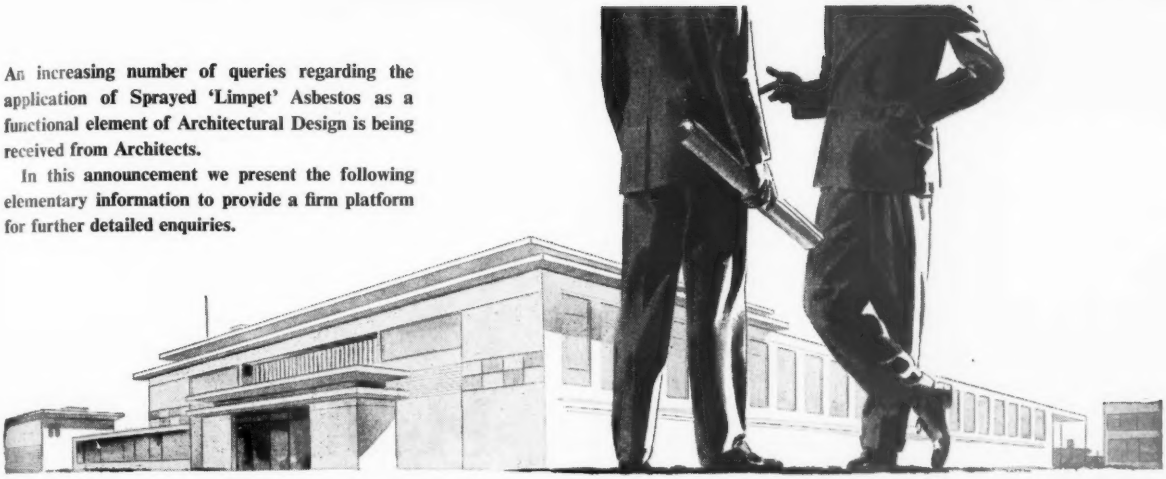
An increasing number of queries regarding the application of Sprayed 'Limpet' Asbestos as a functional element of Architectural Design is being received from Architects.

In this announcement we present the following elementary information to provide a firm platform for further detailed enquiries.



an architect asks questions about Sprayed 'Limpet' Asbestos by NEWALLS

REGD.

"What do you consider is the major advantage of Sprayed 'Limpet' Asbestos?"

Probably the most important element is that the 'Limpet' process gives intimate surface contact, sealing all joints, covering rivets, irregularities and protrusions in a continuous coat that entirely eliminates air spaces—a significant factor in itself.

"I understand that Sprayed 'Limpet' Asbestos has two insulating properties?"

Correct. In addition to providing a high degree of thermal insulation, it is an excellent material for absorbing sound. Indeed, many firms have specified the process for correcting acoustic distortions alone.

"Being largely Asbestos, I suppose the process gives a measure of fire protection?"

Most certainly! Again, it is often used solely because of its fireproofing properties. In fact, this method was the first to be approved for Class A fireproofing of ships under the 1948 Convention.

"Being porous, isn't the treatment liable to premature rotting where condensation exists?"

On the contrary. Asbestos is chemically inert. It is rotproof, verminproof and undamaged by water. Condensation is diffused preventing dripping and allowing for speedy re-evaporation to the atmosphere from the warm surface of the coating.

"It seems too versatile for words. It's a Thermal and Acoustic Insulant, rotproof and verminproof, fire-resistant, prevents condensation, resists vibration... anything else?"

Well. It has been used extensively purely as an anti-corrosion measure on metals subject to severe corrosive conditions, but we'd have to know the particular application you had in mind to give our full recommendations.

"Naturally. And if we did want Thermal and Acoustic Insulation—and Fire protection in one coating—I suppose it would cost the earth?"

Frankly—no. You see, the erection of timber grounds is not necessary. In application there is no cutting to waste, and the density and thickness is controllable to a very fine degree by highly efficient operators. It compares favourably with conventional insulation methods and materials.

Sprayed 'Limpet' Asbestos is a particularly suitable multi-purpose insulant in schools, public buildings and the like. Our considerable experience in this field will be gladly placed at your disposal.

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The result—economy

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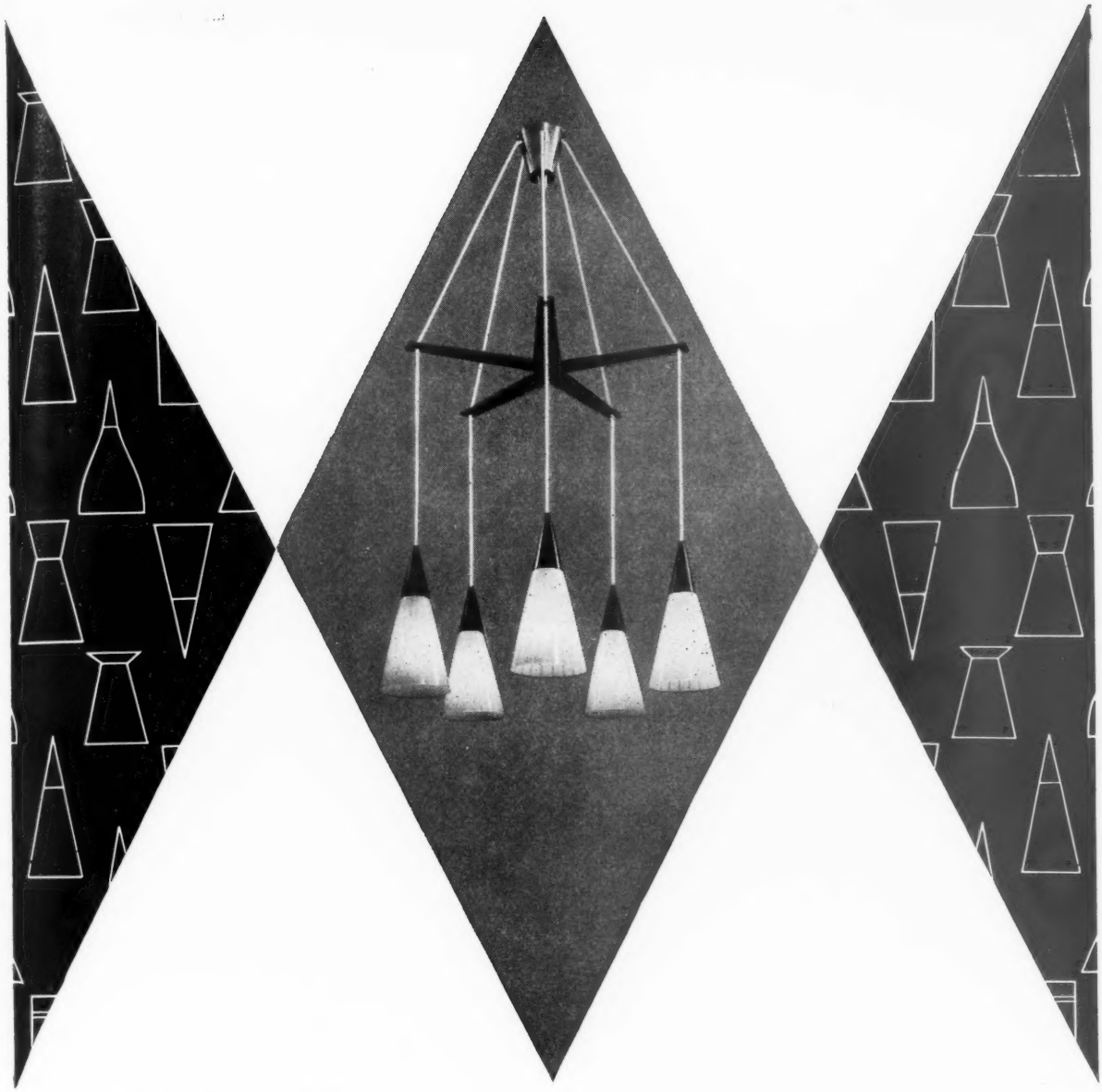

HARLEQUIN a brilliant new conception of lighting

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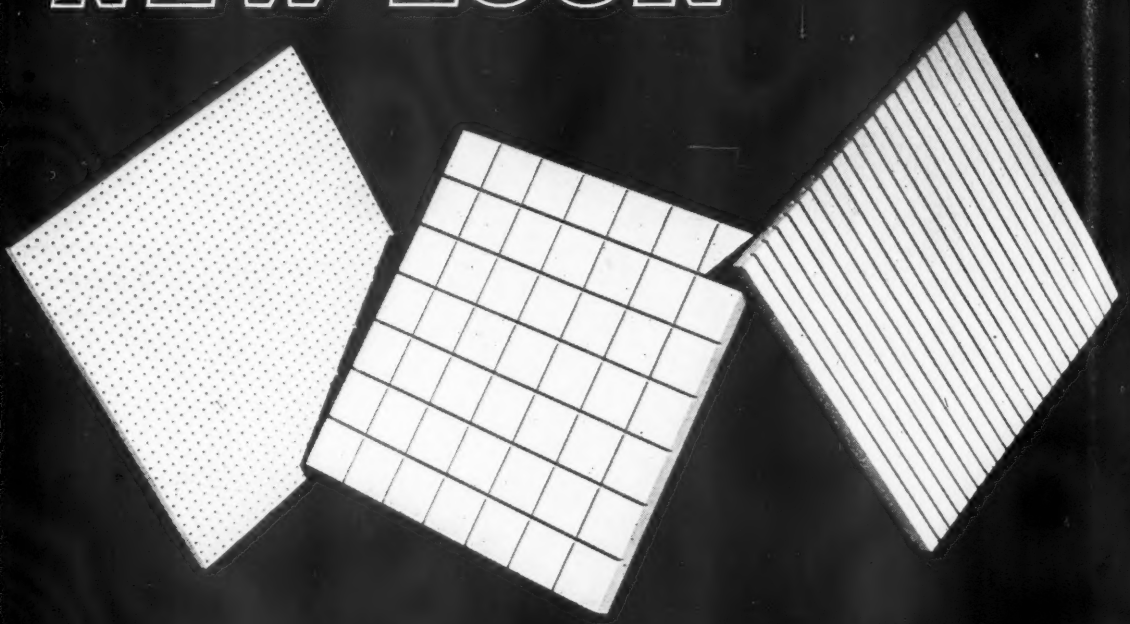

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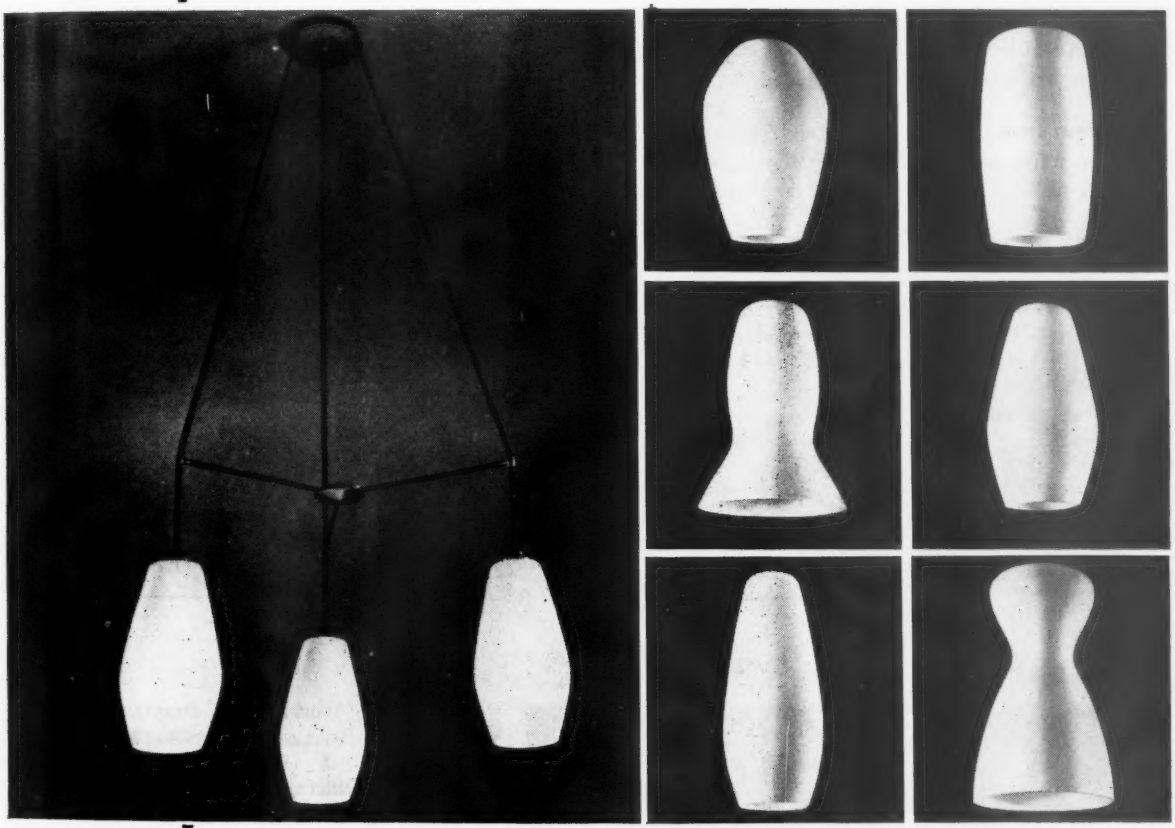

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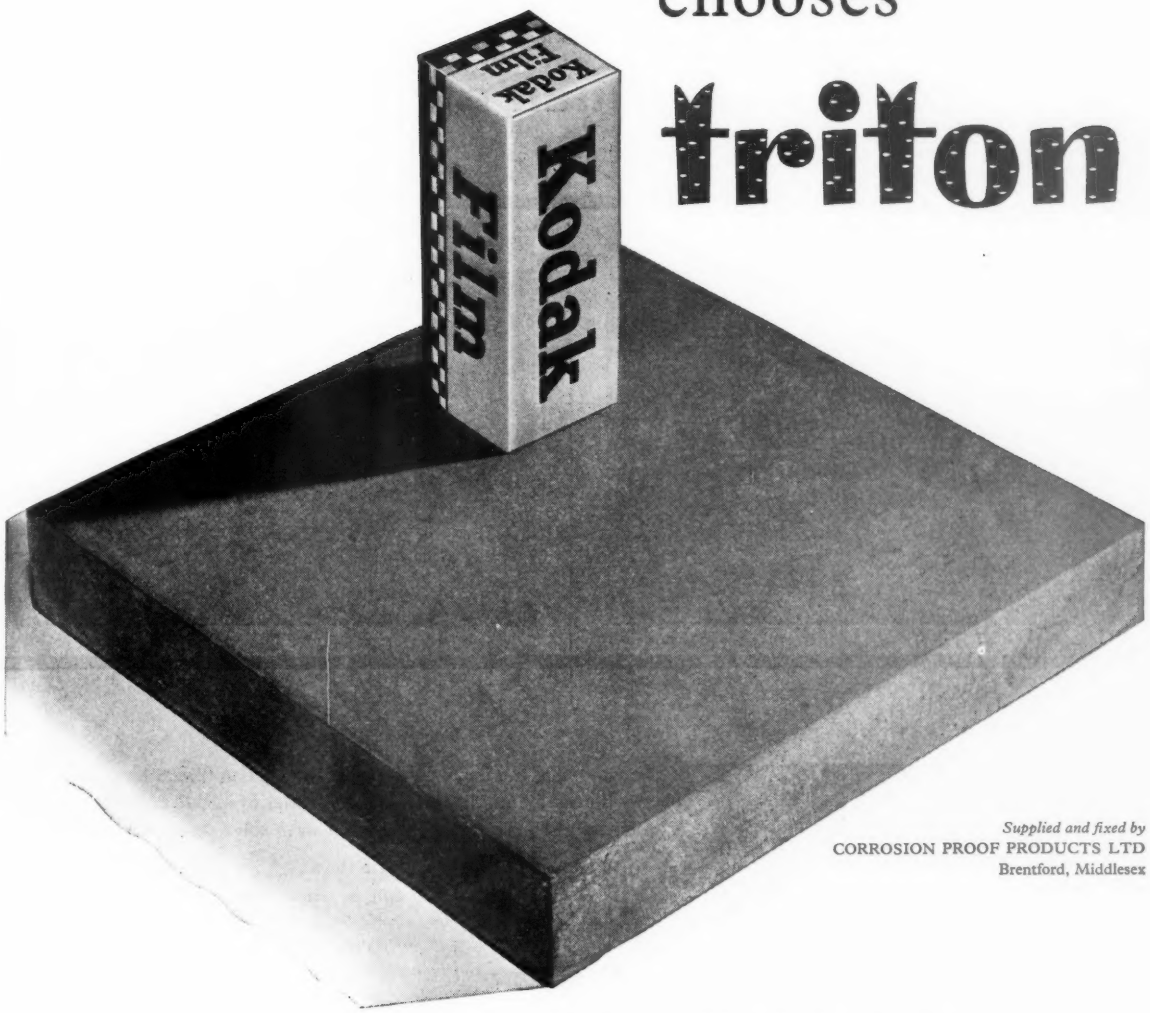

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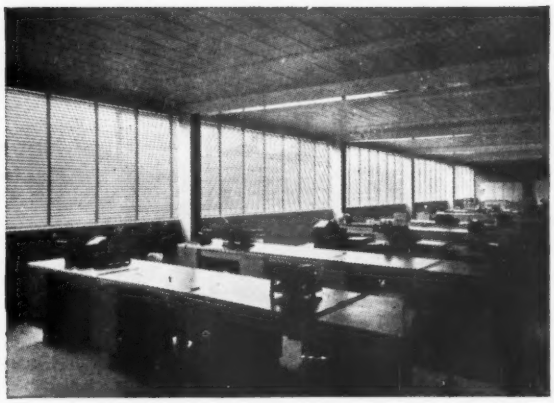

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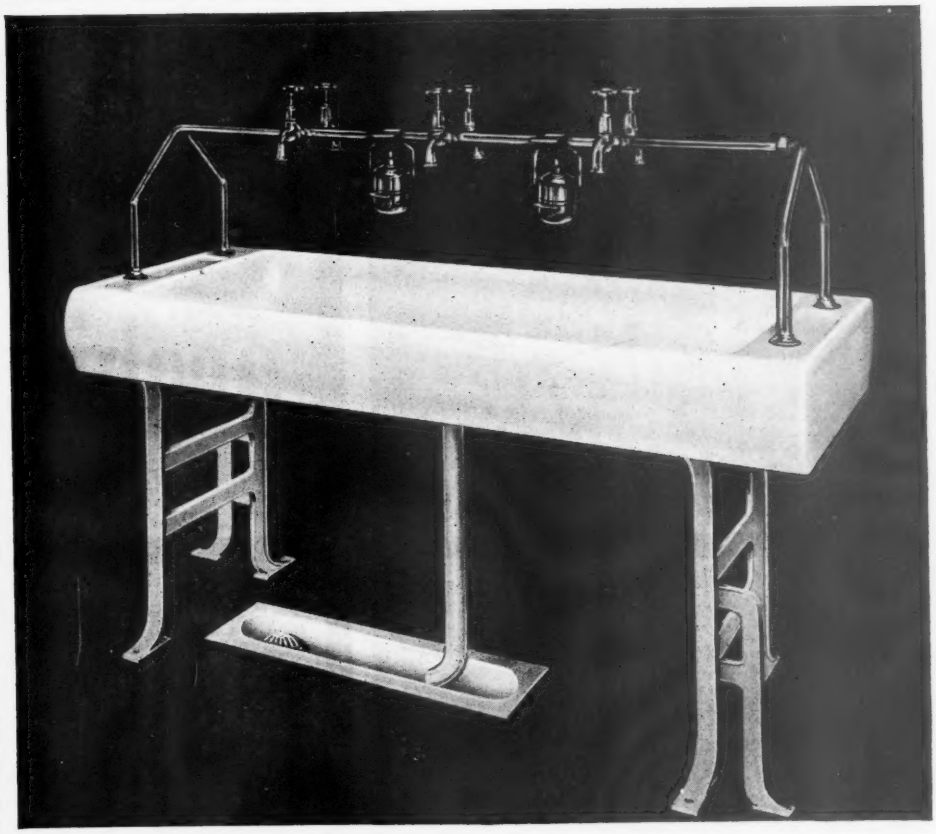

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Main Contractors: Holland & Hannen and Cubitts Ltd.

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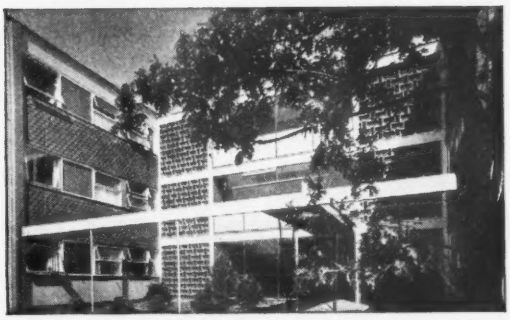
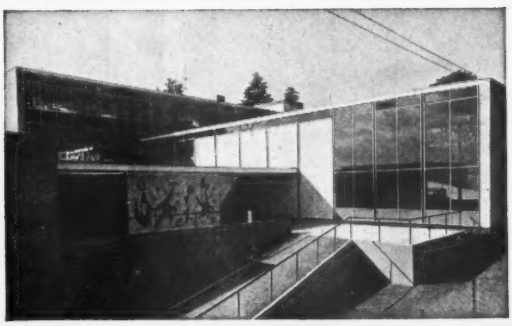


Flats at Parkley's, Ham Common.
Architect: Eric Lyons, F.R.I.B.A.
Main Contractors: Wates Ltd.

architects



Fairlawn Primary School, Lewisham, for the London County Council.
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Main Contractors: E. H. Smith (Croydon) Ltd.

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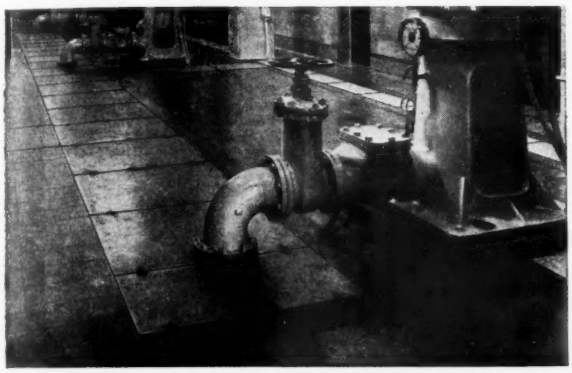
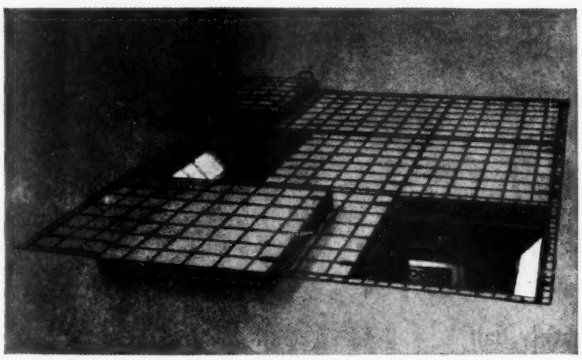


'Elkington Gatic' medium light duty duct covers, installed in Kings Road Pumping Station for the Bury St. Edmunds Corporation.



'Elkington Gatic' heavy yard mu'tiple part cover—size 96″ × 120″ clear opening — 9 in No. covers supported by 2 in No. removable beams installed over Electricity Sub-Station in Switzerland.

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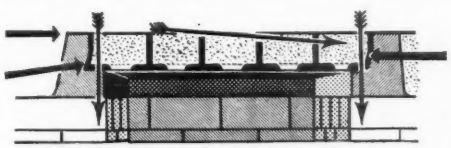

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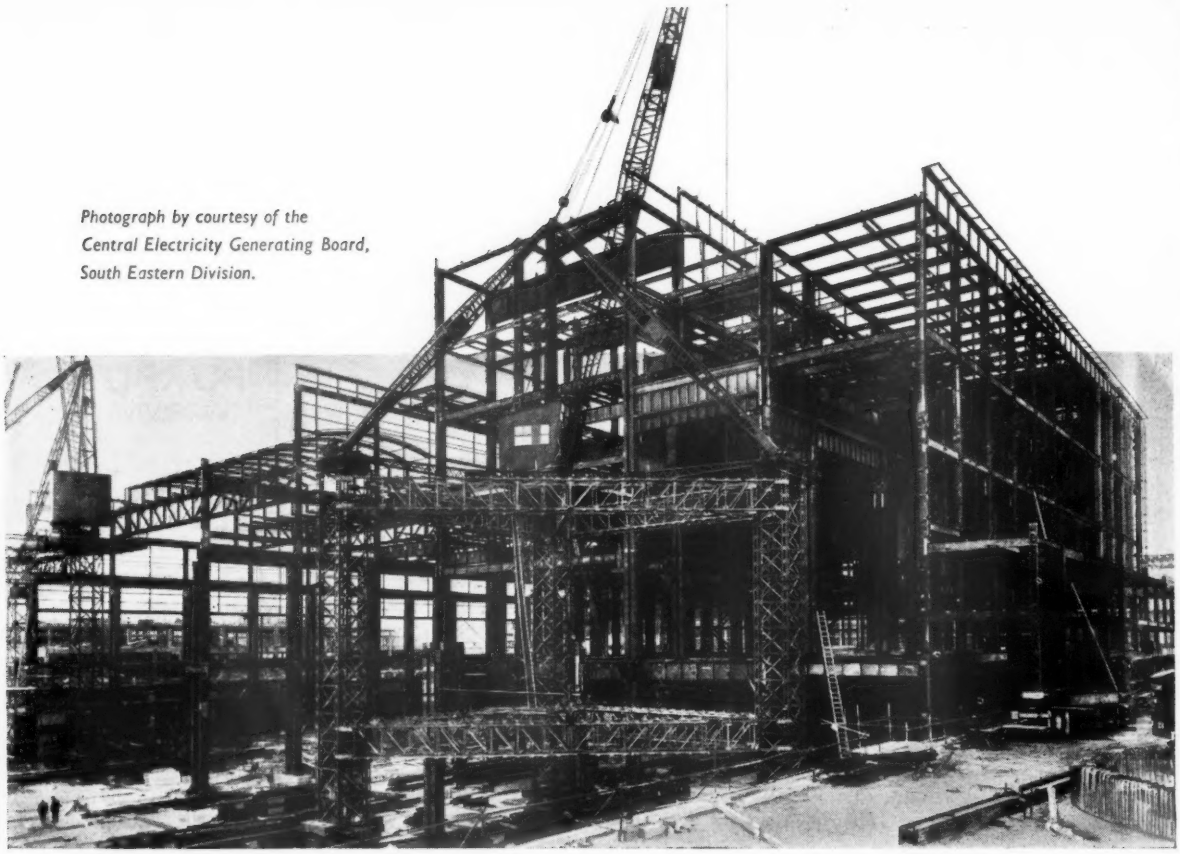
Photograph by courtesy of the Central Electricity Generating Board, South Eastern Division.



NORTHFLEET POWER STATION

The photograph shows approximately half of the structural steelwork at Northfleet Power Station, being erected on behalf of the Central Electricity Authority.

Consulting Civil Engineers: L. G. Mouchel & Partners, Ltd.
Contractors: Taylor Woodrow Construction Ltd.

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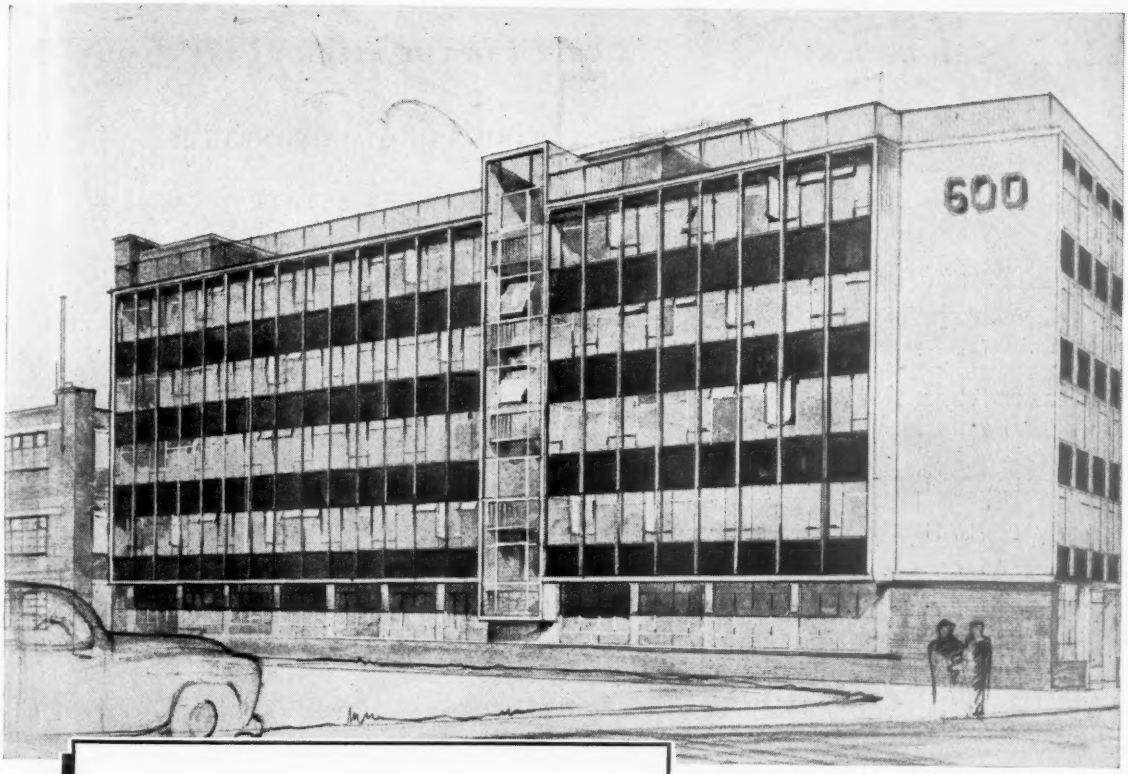

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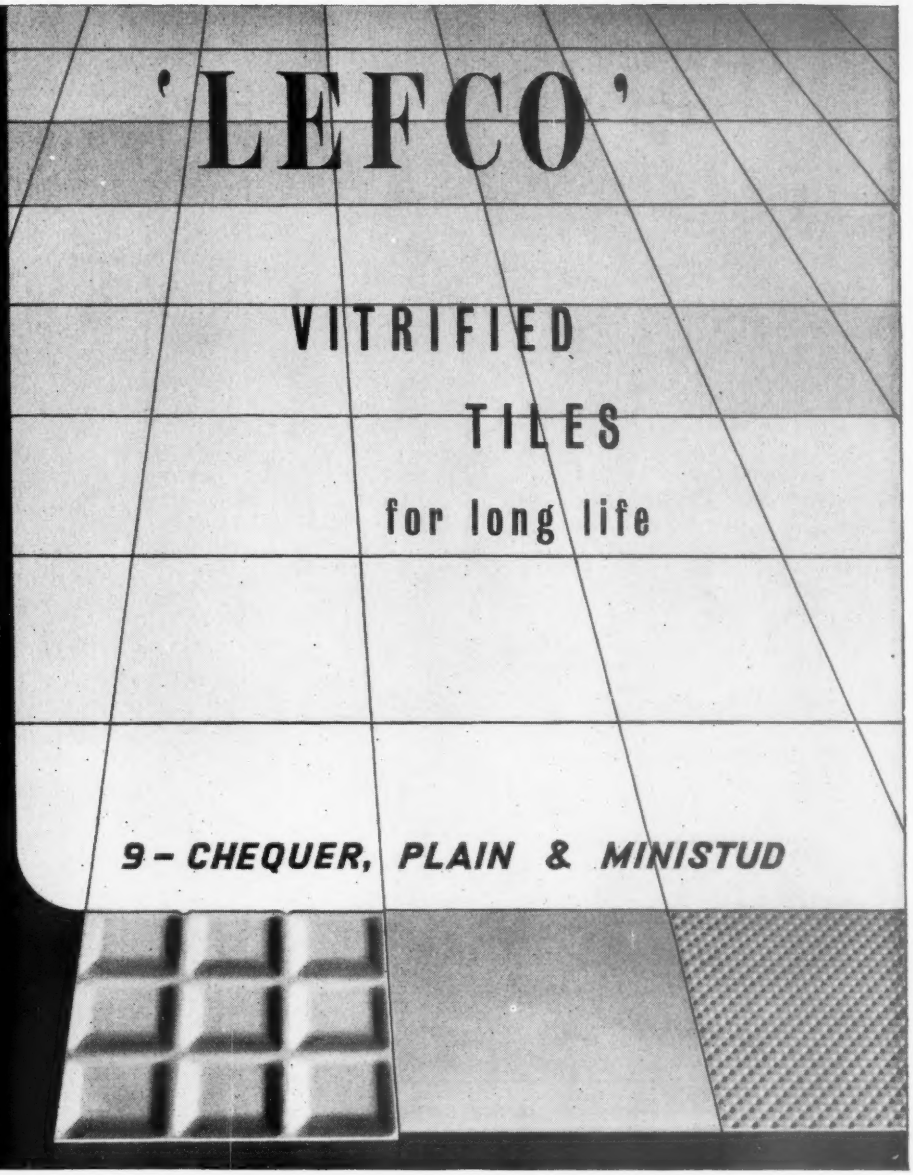

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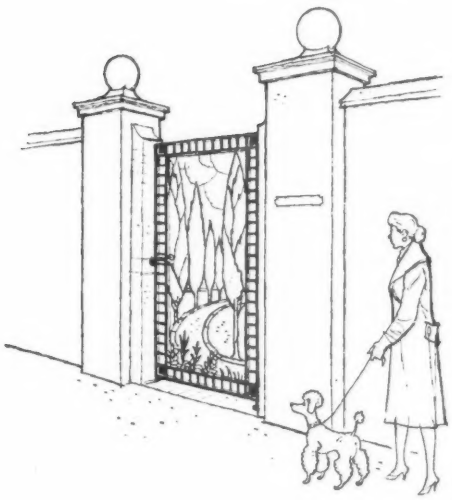

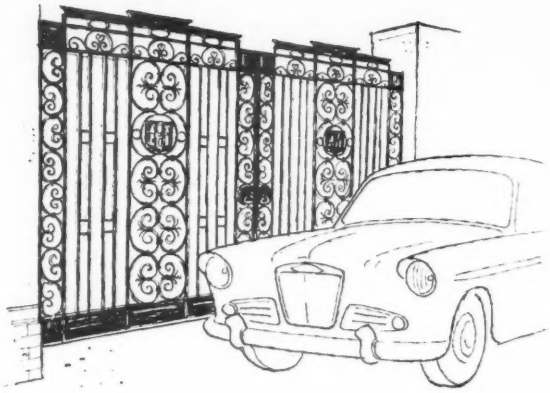

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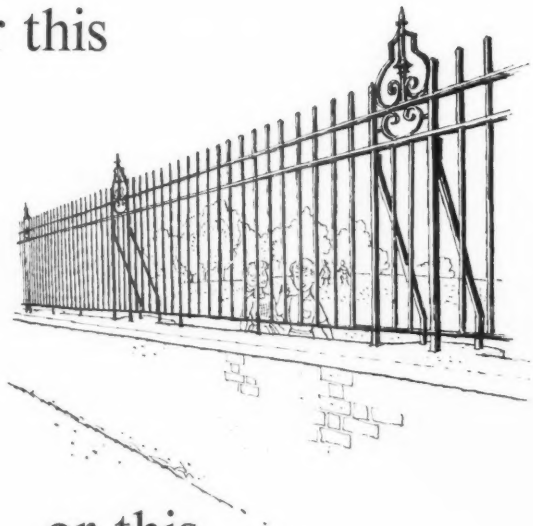

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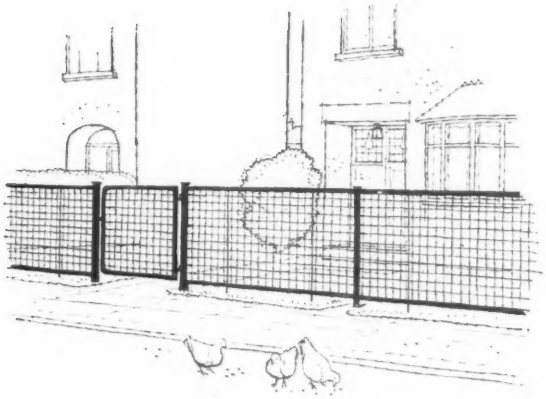

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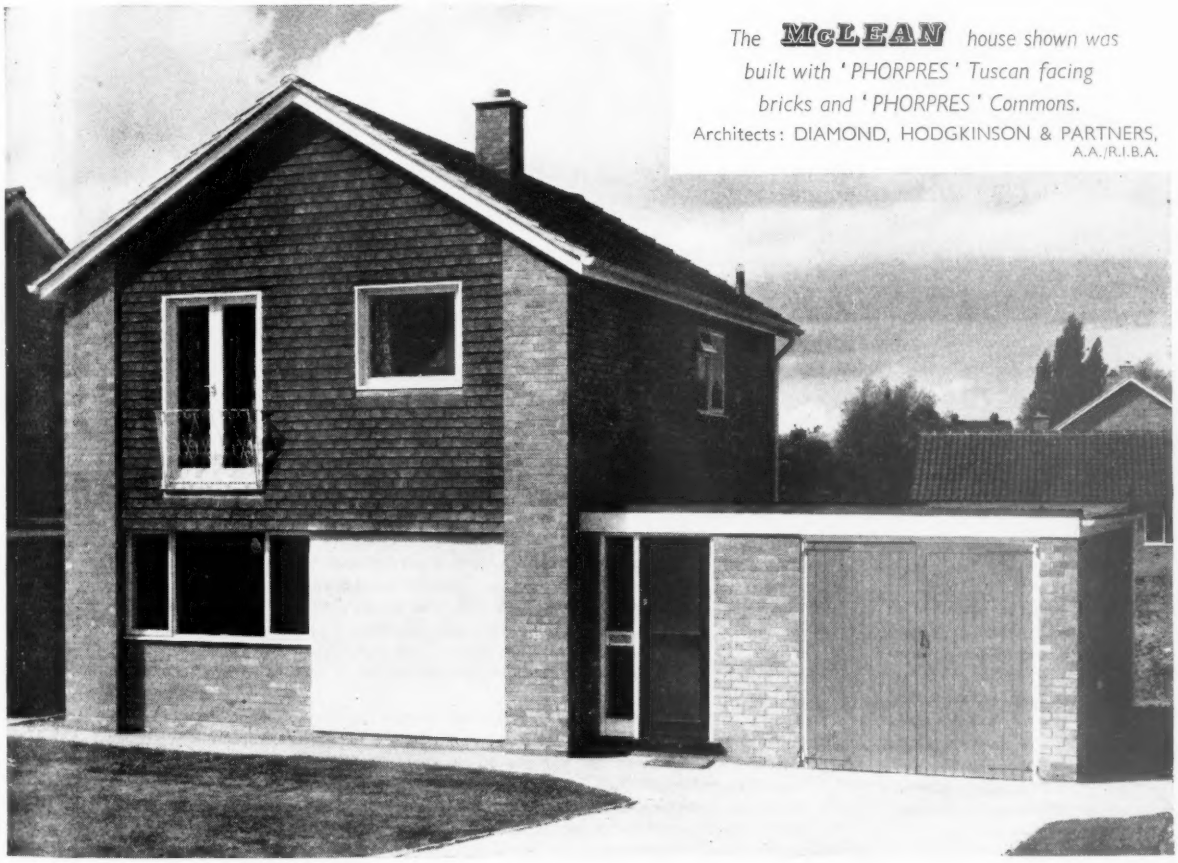

The McLEAN *house shown was built with 'PHORPRES' Tuscan facing bricks and 'PHORPRES' Commons.*
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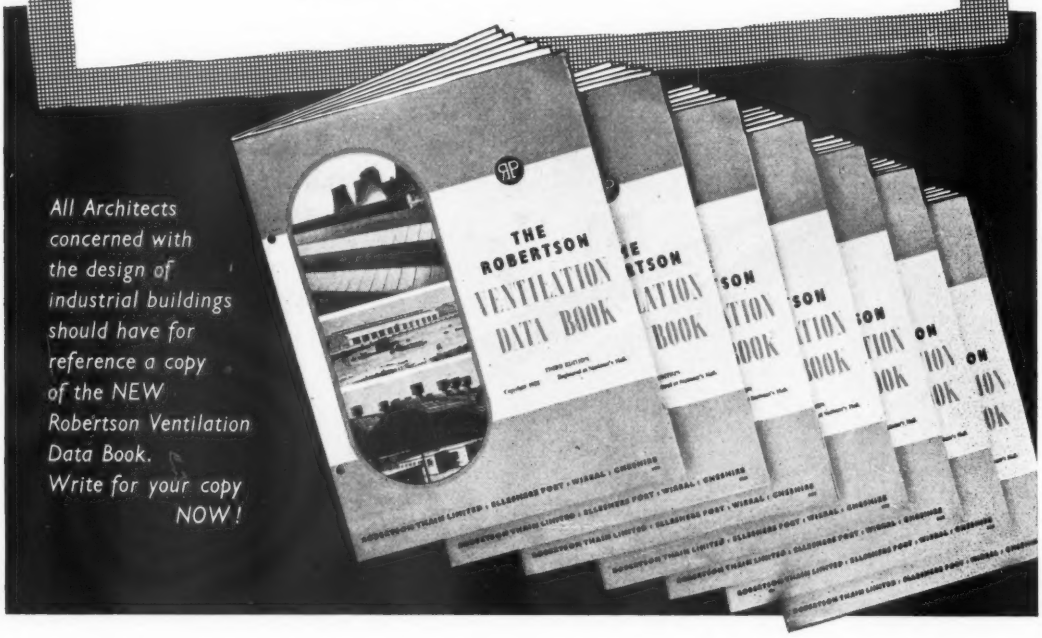

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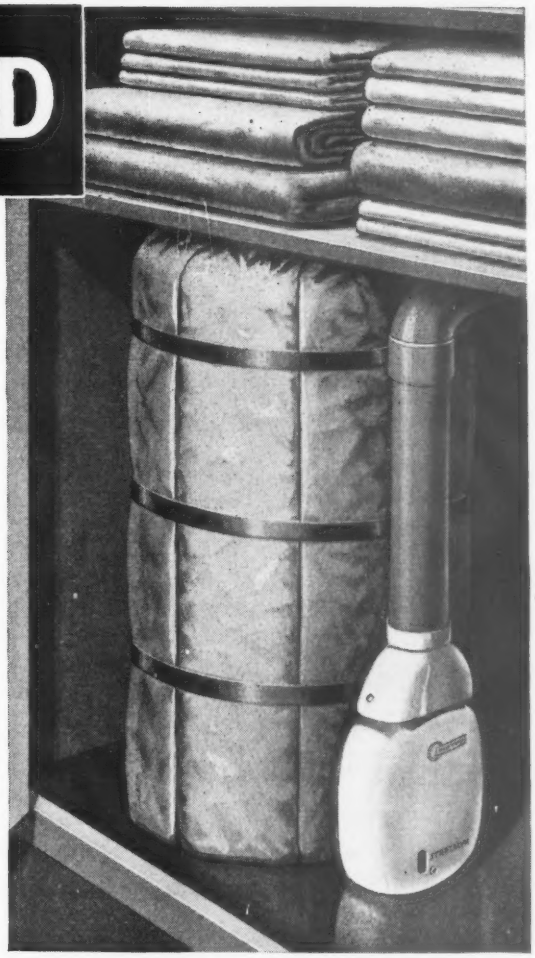

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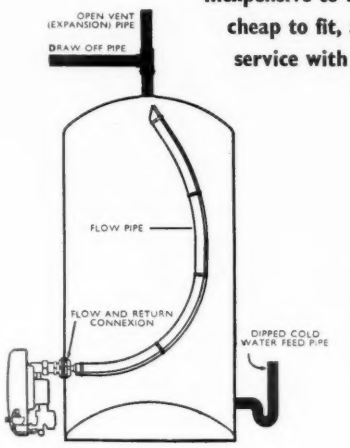

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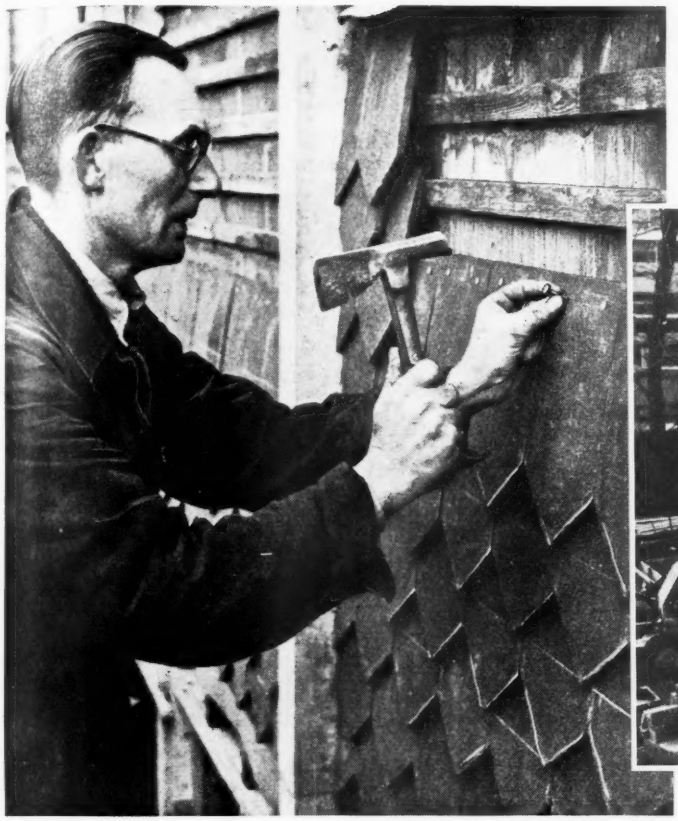

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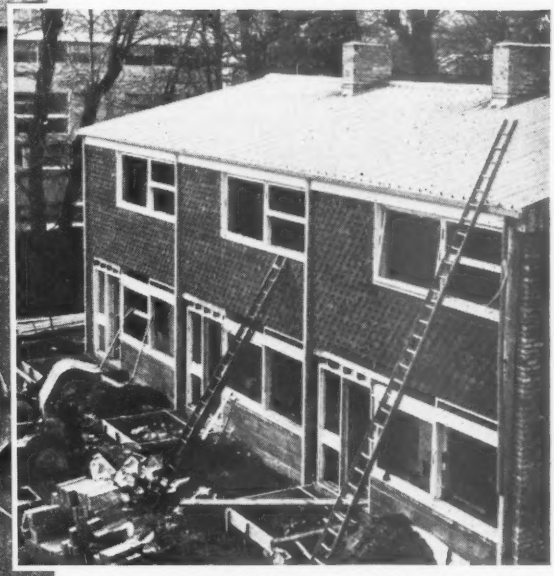

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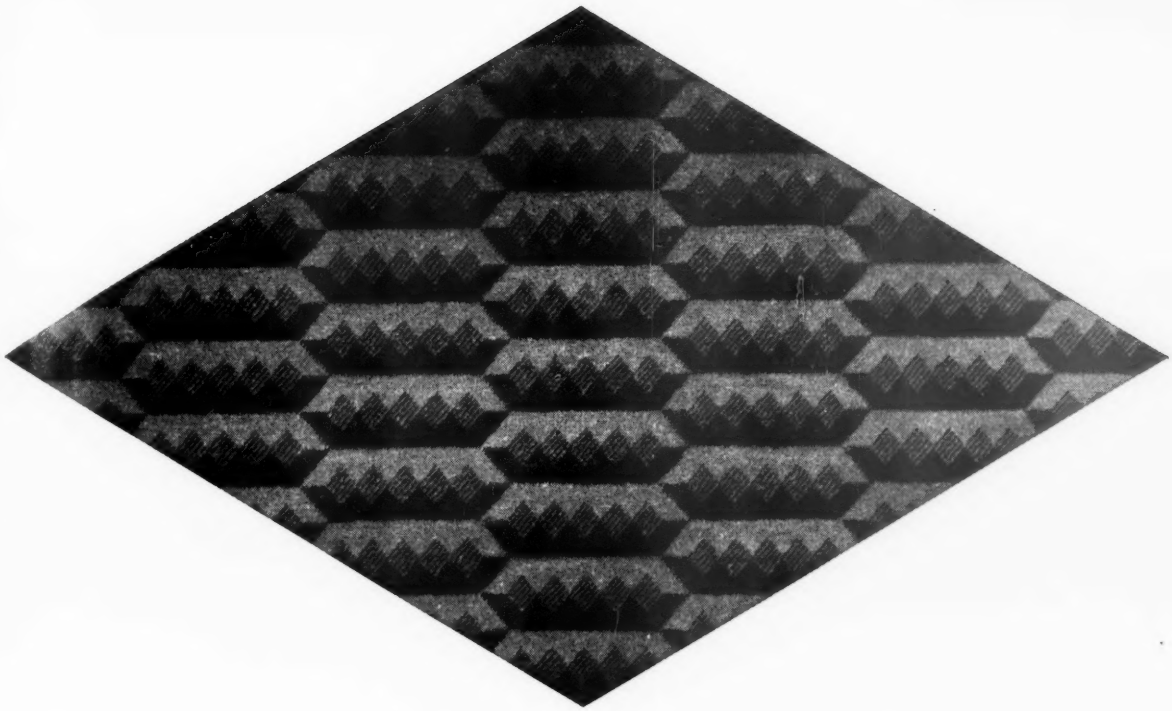

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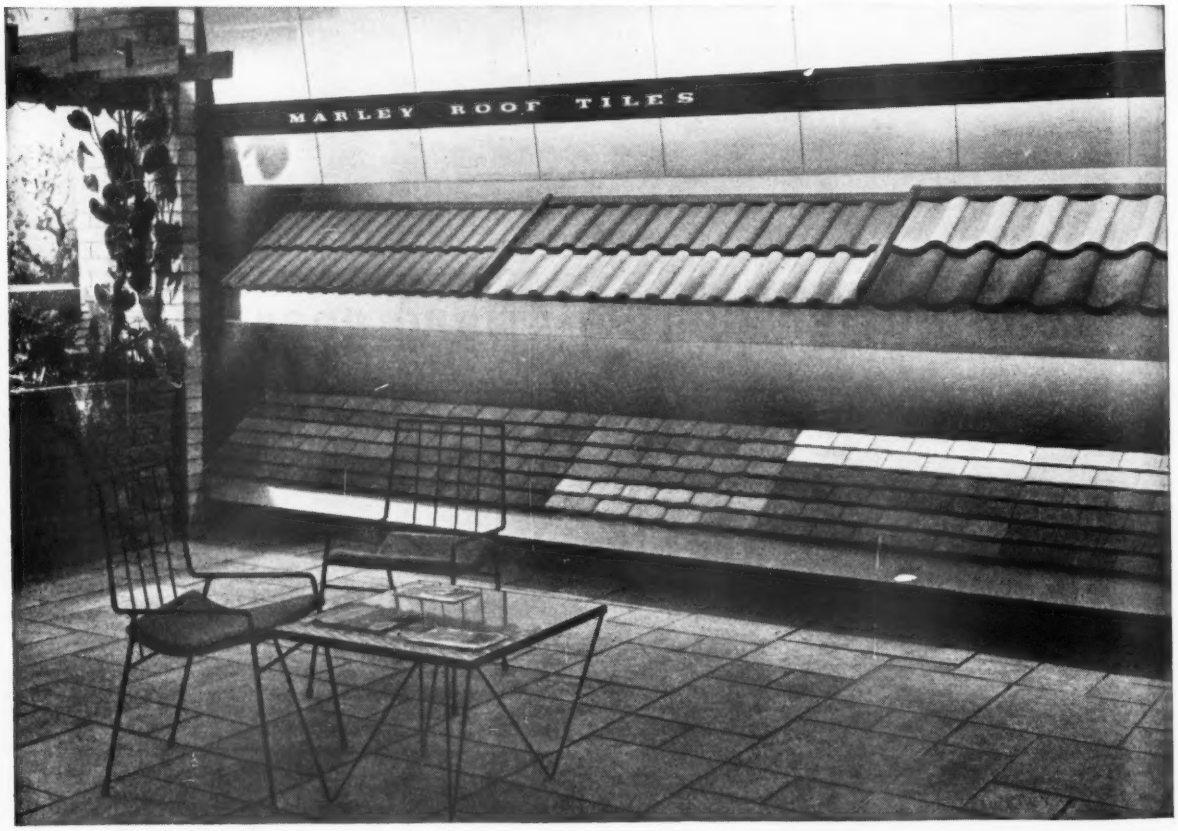

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SEPTEMBER 1958 THIRD SERIES VOL. 65 NUMBER 11 THREE SHILLINGS AND SIXPENCE

EDITORIAL

Membership of Constitutional Committee

At their meeting on 8 July, the Council appointed the following members to serve on the Constitutional Committee:

The Honorary Secretary (Mr. Richard H. Sheppard [*F*]); the Honorary Treasurer (Mr. E. D. Jefferiss Mathews [*F*]); the Chairman of the Allied Societies' Conference (Mr. Norman H. Fowler [*F*]); the President of the Royal Incorporation of Architects in Scotland (Mr. T. H. Thoms [*F*]); Mr. Hubert Bennett [*F*]; Mr. Denis Clarke Hall [*F*]; Mr. A. W. Cleeve Barr [*A*]; Mr. Bernard H. Cox [*L*]; Mr. R. O. Foster [*F*]; Mr. Edward Holman [*F*]; Mr. Arthur G. Ling [*F*]; Mr. J. H. Napper [*F*]; Mr. Thomas E. Scott [*F*]; Mr. Peter F. Shepheard [*A*]; Mr. John C. Stillman [*A*]; Mr. Thurston M. Williams [*A*]; Mr. L. Hugh Wilson [*A*].

The Committee held their first meeting on 17 July, at which Mr. Cleeve Barr was appointed Chairman.

The Committee studied the various matters which had been remitted to them and agreed upon a programme of work.

Leonard J. Currie

On 9 July an informal discussion was held at the R.I.B.A. between a number of members and Professor Leonard J. Currie of the Department of Architecture of the Virginia Polytechnic Institute. Professor Currie showed slides depicting his work at the head of the Interamerican Housing and Planning Center, which he established in 1951 at Bogota, Colombia.

As its name implies, this centre carries out a programme of research and training with the purpose of preparing technicians to deal with the varied problems of low-cost housing undertaken on a large scale in the differing conditions of the Latin-American countries. The centre provides facilities for the training of architects and sociologists, and the students come from North and South America as well as other parts of the world.

Professor Currie's programme in this country, where he was spending only two days on his way to the Moscow Congress of the I.U.A., was arranged by the Colonial Liaison Section of the Building Research Station.

Exhibition at the Building Centre

The first official duty of the new President of the R.I.B.A., Mr. Basil Spence, O.B.E., A.R.A., A.R.S.A., was to open on 10 July an exhibition at the Building Centre of drawings submitted for the Cement Marketing Company's competition for the design of a reinforced concrete factory building.

Introducing the President, the Chairman of the Company, Mr. V. C. Ellison, referred to a lack of knowledge, generally speaking, by competitors about possible designs, applications and properties of concrete, in particular how it could best be employed. He said it was not the architect's job to be a builder or civil engineering contractor, but it was essential that he should know what these two people were capable of and how they could do it in the most economical way, and what the concrete products' manufacturer could do for them all. He suggested that the Cement and Concrete Association who had the facilities should approach the R.I.B.A. and offer to run some courses on the points he had mentioned.

The President in his speech said that concrete was a material that has had more to do with the development of modern architecture than any other single building product and that in concrete he thought the future of architecture must rest, although he sometimes quarrelled with the finishes that were used.

Local Government Architects' Society

The Provisional Executive Committee of the new Society held its first meeting at the R.I.B.A. on 4 July at which the following were elected officers for the life of the committee: Chairman: T. M. Williams (London County Council), Vice-Chairman: J. Duxbury (Sunderland County Borough), Hon. Secretary: K. G. Jones (West Ham County Borough), Hon. Treasurer: J. T. Bell (Essex County Council).

The Committee considered methods of working and agreed to form the following sub-Committees to consider (*a*) organisation and finance, (*b*) relations with other associations and unions, and possible negotiations, (*c*) membership.

It was also agreed that an additional sub-committee consisting of representatives of each of the above sub-committees should meet later to draft a constitution.

Sir Arthur Stephenson

Sir Arthur Stephenson, C.M.G., M.C. [*F*], has been elected an Honorary Fellow of the American College of Hospital Administrators. The citation is as follows: 'This award is made in recognition of your distinguished and creative service in hospital development not only in your own country and in the United States, but throughout the world.'

Sir Arthur will be coming to this country on a visit early in October.

Architect Chairman of R.S.H.

Mr. Donald A. Goldfinch, E.R.D. [*F*], Architect to the Birmingham Regional Hospital Board, has been elected Chairman of the Council of the Royal Society of Health. This is the first time in over 30 years that the Society has elected an architect as chairman. Mr. Goldfinch is Chairman of the Public Health Committee of the I.U.A.

Architects in Industry: R.I.B.A. Group

At the invitation of the Ad Hoc Committee (Chairman: Mr. Richard Sheppard) twenty architects employed on the staffs of industrial companies met at the R.I.B.A. on 22 July, for an informal exchange of views and information with a view to improving the standard of industrial architecture. Mr. Stuart Bentley [*F*] took the chair, and architects attended from a wide variety of manufacturing companies and nationalised industries. Those present concluded that it was well worth appointing from among their number a small group who would go further into the matters discussed and report back to the main body. It was felt that such discussions and any considered judgments that resulted could form a valuable contribution to the work of the R.I.B.A.

The small working group have had a preliminary meeting and have agreed as a first step to compile as comprehensive a list as possible of architects employed on the staffs of industrial companies. They are also collaborating with the Public Relations Committee.

While this work has had, necessarily, to be initiated by a small group of workable size, the interest and collaboration of all architects similarly employed would be welcome; and any architects in industry who have a contribution to make are invited to get in touch with Mr. Stuart Bentley, c/o the R.I.B.A.

A.R.C.U.K.

The Architects Registration Council of the United Kingdom announces that by an Order dated 15 July 1958, Her Majesty's Privy Council have approved amendments to Regulations 36 and 37, whereby as from 1 January 1959,

(*a*) the Admission Fee will be raised from 10*s*. to £1 (Regulation 36):

(*b*) the Annual Retention Fee will be raised from £1 to £1 10*s*. (Regulation 37): and

(*c*) the sum prescribed by way of penalty under Section 13(5) of the Architects Registration Act, 1931, will be raised from £2 to £3 (Regulation 37).

The reasons for the increases are set out in the A.R.C.U.K. Annual Report, 1957–58.

Honour

The exhibition 'Architecture and You' which was arranged by the Northern Architectural Association in conjunction with the Civic Trust during the British Architects' Conference at Newcastle, was highly praised by all who saw it. The exhibition was designed by Mr. Henry S. Wood, D.A., Dip.T.P.(Edin.), A.M.T.P.I. [*A*]. Mr. Wood has since had the degree of M.A. conferred on him by the University of Durham.

Exhibitions to be held next year

On the invitation of the R.I.B.A. Professor Arne Jacobsen has agreed to prepare an exhibition of his work for showing at 66 Portland Place during February and March of next year. The exhibition will contain not only photographs and models of his architectural work but also furniture and fabrics.

The Association of Chinese Architects have promised to provide an exhibition for showing in the late Spring of 1959. It is understood that this will illustrate fully the great classical tradition of Chinese architecture and town planning from earliest times and the contribution of the Chinese garden and its relation to architecture. There will also be sections showing present developments with particular reference to the work in Peking.

An exhibition of Swiss architecture and engineering will be shown during October 1959. This will be one of a series of exhibitions which are being presented by the Swiss Government who are organising a Swiss Fortnight in this country.

Part-time Day Release of Candidates for the R.I.B.A. Examinations

The Council of the Royal Institute wish to bring to the notice of members of the R.I.B.A. the importance of allowing their staff part-time day release until they have completed their qualifications.

Part-time day release should, as a minimum, be the same as that agreed between the Royal Institute and the Ministry of Labour and National Service in connection with deferment of national service. Under that scheme it is obligatory for employers to permit students part-time day release to the extent of not less than eight hours a week for the purpose of taking a course of instruction and/or private study in connection with preparation for their examinations.

A.B.S. Ball 1958

'Old China' is the title of the theme for the 1958 Ball which will be held at Grosvenor House on Wednesday 10 December.

Tickets will cost £2 12s. each and application forms will be included in the October R.I.B.A. JOURNAL. Last year it was not possible to supply tickets for all those anxious to attend and the Ball organisers have this year arranged for a limited number of unreserved tables to be available on the balcony. Double tickets for architects only and their partners will be available for balcony tables at £4 4s.

Anyone who wishes to make sure of securing tickets should send in without delay a reservation for either kind of ticket to Mr. C. J. Epril, 55 Pall Mall, S.W.1. A cheque covering the cost for the number of tickets required should be sent with the application.

Prince Philip now an Hon. F.R.I.A.S.

H.R.H. The Prince Philip Duke of Edinburgh was elected an Honorary Fellow of the Royal Incorporation of Architects in Scotland at the Annual General Meeting in Edinburgh on 31 May 1957. The Council of the R.I.A.S. were very gratified to receive a communication from Buckingham Palace stating that it would be convenient if His Royal Highness could receive the Honorary Fellowship during the Queen's visit to Edinburgh in July 1958, and they felt that the Royal Incorporation was being very highly honoured indeed when it was subsequently arranged that His Royal Highness would visit 15 Rutland Square for the ceremony.

The visit took place during the morning of Wednesday, 2 July. The Duke was received by the President, Mr. Thomas H. Thoms [*F*], the immediate Past President, Mr. William McCrea [*F*] and the Secretary, Mr. Kenneth Macrae, W.S. The President conducted His Royal Highness upstairs to the Council Room, where Members of Council, Past Presidents and Honorary Fellows were waiting.

The President delivered a short address of welcome and said how greatly honoured the Royal Incorporation was when His Royal Highness was pleased to accept the Honorary Fellowship. Prince Philip was the first member of the Royal Family to become an Honorary Fellow, but the Queen was the well-beloved Patron of the R.I.B.A., to which the Royal Incorporation was allied in bonds of friendship and common causes. The President went on to outline the history of the R.I.A.S. and then asked the Duke to accept a diploma, which had been specially commissioned for the occasion.

The Duke said in reply that he was delighted to receive the Honorary Fellowship. 'I don't pretend to have any architectural ability or experience,' he said, 'but I am very good at one thing—at arguing with architects. Not being an architect I do not know how architects think, but there is one thing I hope—that you will never lose sight of the tremendous influence that architects have on everyday life. I think it is worth remembering that, when you look around, everything that has not been made by God has probably been perpetrated by an architect. Some people get excited about great painters or sculptors or musicians, but the really only practical artists in life are architects. If you do not like a picture you can turn it to the wall or not look at it, but you cannot avoid the work of the architect. He is always there.' The Duke concluded by reminding the members that there was a tremendous opportunity in the future for bodies such as the Royal Incorporation.

After signing the Visitors' Book, the Duke had an informal chat with several of the architects present in which he showed a great interest in the problems of architects.

Junior Liaison Committee

The next meeting sponsored by the Junior Liaison Committee has been arranged by the Institute of Builders to be held at 48 Bedford Square, on 15 October, at 6.30 p.m. It will take the form of a discussion on the subject of 'Work Study and the Building Team', and it is intended that the topic will be discussed from a viewpoint which will be of equal interest to architects, quantity surveyors and builders. Those attending will be invited to take part. Any younger members who are interested should write to the Secretary, R.I.B.A., for tickets, the latest date for application being 8 October.

Arrangements for the Session 1958–59

The new session opens on 21 October with a lecture on 'Progress in Hospital Planning' by Mr. R. Llewelyn Davies, M.A. [*F*] and Mr. John Weeks [*A*] of the Nuffield Foundation's Division for Architectural Studies.

On 4 November the President will deliver his Inaugural Address, present the London Architecture Bronze Medal and unveil the portrait of Mr. Kenneth M. B. Cross, M.A., D.C.L., Past President.

On 25 November a lecture on 'Fire Protection' will be given by Mr. Eric L. Bird, M.B.E., M.C. [*A*], and Mr. S. D. Studd.

On 9 December, Mr. Percy Johnson-Marshall, A.M.T.P.I. [*A*] will give a talk on 'Comprehensive Redevelopment'.

On 16 December there will be a discussion on 'In Situ Concrete Finishes'.

The first meeting in 1959, on 6 January, at which the Award of Prizes and Studentships will be announced, will be a Special General Meeting. (It will be remembered that at the A.G.M. on 6 May, it was agreed that a Special General Meeting should be called to report progress on the points raised in the motion moved by Mr. A. Cleeve Barr [*A*].)

On 13 January there will be a discussion on 'Suspended Ceilings'.

On 20 January, the R.I.B.A. will hold a joint meeting with the Institution of Civil Engineers at their headquarters at Great George Street, S.W.1, at 5.30. Papers will be given by Mr. E. D. Jefferiss Mathews, O.B.E., A.R.I.C.S. [*F*], and Mr. Ove Arup.*

On 3 February the President will deliver his Address to Students, after which Mr. Edward D. Mills [*F*] will give the Criticism of work submitted for Prizes and Studentships, followed by the presentation of Prizes.

On 17 February, Mr. N. Keith Scott, M.A., B.Arch. [*A*] will give a talk entitled 'An Architect looks at America'.

On 19 and 20 February, a second Symposium on 'Laboratories' will be held.

On 10 March a lecture on 'Royal Palaces in England from Norman to Victorian Times' will be given by Mr. John Charlton, M.A., F.S.A.

On 17 March, Mr. Bryan Westwood [*F*], Mr. Louis Erdi [*F*] and Professor S. R. Sparkes, M.Sc., Ph.D., M.I.C.E., M.I.Struct.E., will speak on 'Hostels, Hotels and Motels'.

On 7 April, the Presentation of the Royal Gold Medal will take place.

On 21 April Mr. J. Clancey and Mr. A. J. M. Tolhurst [*A*] will speak on 'Sanitation within Buildings'.

On 5 May, The Annual General Meeting will be held.

On 22 May there will be a Symposium on Urban Renewal called 'The Living Town'.

On 26 May Mr. Bryan H. Harvey will speak on 'Early Industrial Architecture'.

On 16 June, the Election Results will be announced followed by a discussion on 'Professional Status'.

Design Pays

The report of the Symposium on the Private Enterprise House and its Setting under the title 'Design Pays' held at the R.I.B.A. on 2 May is available at 5*s*. a copy post free on application to the Secretary, R.I.B.A.

* See Mr. Jefferiss Mathews' letter on page 391.

Street elevation: The facing bricks were chosen to harmonise with the adjoining 18th-century houses

Brunel House, Cheyne Walk, Chelsea

Architects: Edward Armstrong [*F*] and Frederick MacManus [*F*]

THIS BUILDING, designed for Chelsea Borough Council, was awarded the London Architecture Bronze Medal for 1957.

The threatened demolition of Georgian houses in the western part of Cheyne Walk, Chelsea, was the subject of vigorous controversy some years ago. As a result of this it was decided only to redevelop the site to the east of these houses, then occupied by a petrol station and a pair of Victorian houses.

The problem consisted of planning homes for the higher income group which would provide the convenience and amenities of present-day standards while having elevations in harmony with the adjoining buildings. As in the 18th century, the design of the new building has been determined by the acceptance of contemporary planning needs and building technique. Harmony, therefore, with the adjoining 18th-century buildings has been achieved, not by reproduction, but rather by keeping the design of the new building equally simple in character and in scale with the old, by keeping window head and parapet walls as closely as practicable in line, and by using similar facing materials.

It was also considered important that the frequent vertical elevational emphasis, or division, provided by the narrow-fronted houses, should be maintained in the new building. This emphasis has been attained by planning the flats in 'series' rather than the usual 'handed pairs'.

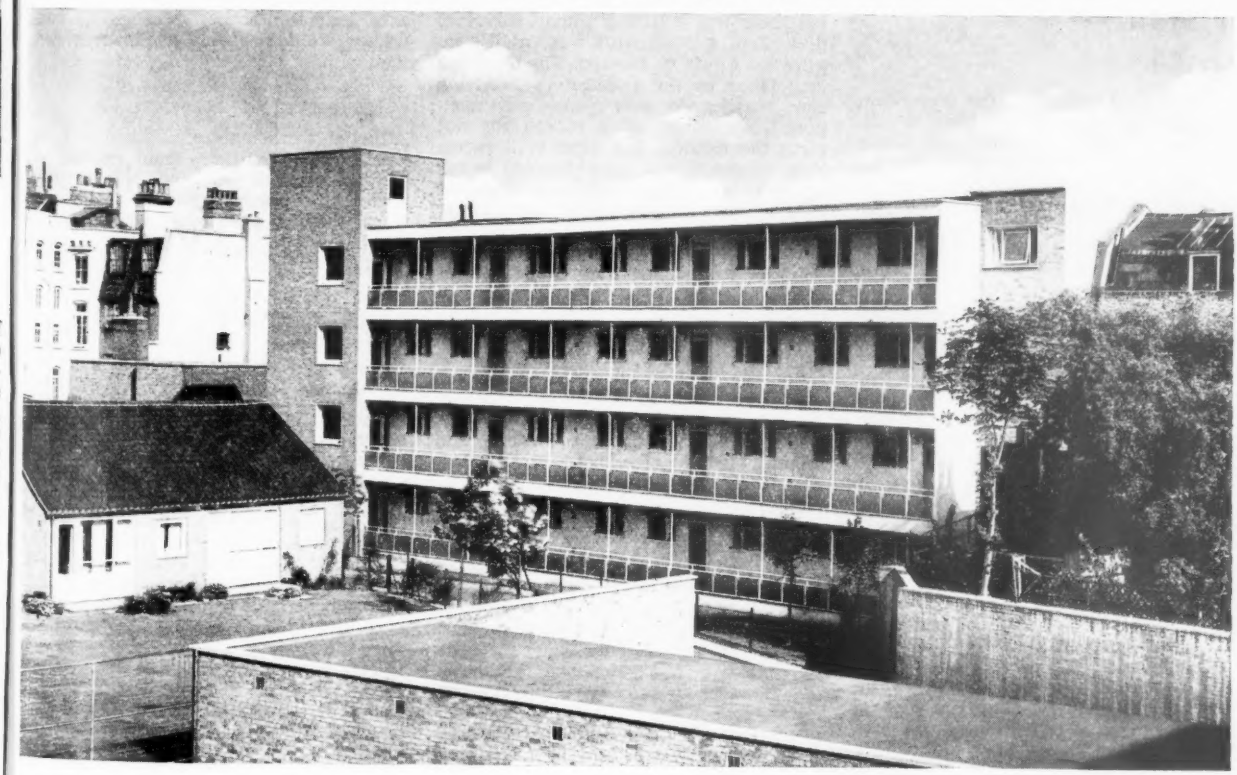
The site, which has a southerly aspect and extensive river views, has a frontage (extending eastwards from No. 107 Cheyne Walk to the corner of Milman's Street) of about 127 ft.

The adjoining houses are of simple Georgian character, three storeys high with an attic in the roof, brick-fronted and with wooden windows.

The new building is of three storeys (of similar height to the adjoining houses) containing nine 4-room flats with a set-back penthouse storey containing three 3-room flats, making a total of twelve flats. The flats are planned in 'series' to provide a narrower elevational unit, and they are approached on the north side from wide access galleries which lead from a stairs hall on each floor served by a passenger lift large enough to accommodate prams. Gallery access was adopted as it permitted the 'series' type of flat plan.

The building has been planned on a slight convex curve to Cheyne Walk. This not only allows it to be set back in the road from the general frontage line of the buildings on either side, but also aligns the eastern end of the new building with those of the Cremorne estate behind. The raised forecourt of Cheyne Walk brings the ground floor level with the adjoining houses.

Above: view from Battersea Bridge. Below: rear elevation showing continuous access balconies



Cost Control at the Design Stage

Summary of evidence examined by the R.I.B.A. Cost Research Committee

INTRODUCTION

The view that effective cost control systems have yet to be established in general design practice was put forward by the Institute's Cost Research Committee in their interim and full reports.* In reaching this conclusion the committee had before them evidence on methods of cost control used by architects and the opinions of quantity surveyors, consulting engineers and builders that were believed to represent existing practice in a reasonably comprehensive way. The committee here publishes a summary of this evidence, to inform members of development in this aspect of architecture and in the hope that it may stimulate further acquisition and exchange of knowledge.

Part I summarises the experience and opinions that were put to the committee. Part II describes some cost control methods used in individual offices. Part III contains a synopsis of five articles dealing with the general principles of cost control. A fuller bibliography of articles on cost studies, in chronological order but unclassified, is in the committee's records, and copies can be obtained on request from the R.I.B.A.

PART 1. EXPERIENCE AND OPINION

The Client

In the evidence given to the committee, there was rather more emphasis on the need for architects to inform their clients on cost questions, than on the difficulties that clients cause for cost control. Lack of cost information available to the profession was the main topic under this heading. Whether architects are given a cost limit to work to or whether they are given an indication of the accommodation required (with or without a cost limit) it was felt that they should be able to forecast the one in terms of the other much more reliably than at present.

Two private architects with fairly large practices said that they submitted detailed estimated cost figures with their sketch designs—one in the form of a sketch cost plan showing how it was proposed to distribute the money among the elements of the building. Evolution of the sketch design in discussion with the client was accompanied by corresponding adjustments to the expenditure distribution. This procedure put discussion on a realistic basis and greatly improved confidence between architect and client.

There was some indication that architects should take more account of the client's financial considerations, such as cost of land, loss of income during construction, running and maintenance charges and so forth, but here again there were complaints of the lack of information available to the profession.

Design

Opinion was almost unanimous that in the phase entirely under the architect's control, the design phase, there was considerable scope for giving greater value for money. Most agreed that this should be achieved by a more thorough and detailed working out of construction relative to methods of erection on the site, hand in hand with some form of cost planning. It was to be noticed in the evidence heard that those with little or no experience of cost planning were more sceptical of its possibilities than those who had used the method. They thought that 'there were too many imponderables' and that variations in builders' pricing methods could be 'very misleading' when comparing one analysis with another or when using analyses to set cost targets for design. Several expressed the view that cost planning was a workable tool only for those offices which handled more than one example of a building type.

It appears that few quantity surveyors have charged an extra fee for assisting in the preparation of cost plans or for the abstraction of analyses from priced bills, but there was a feeling among surveyors that where a lot of work was entailed an extra fee would be merited. The increased time taken by the architect in preparing and working to cost plans was mentioned, sometimes as a reason for not using the method, but those with experience remarked that cost planning brings about a more thorough and complete working out of the design and at an earlier stage, than is normal practice. It tends to produce a more full and truly representative set of tender documents and may reduce or even abolish the post-tender trimming of designs to bring them within the client's means.

In discussion on the problems of information, it was suggested that there should be published a quarterly index of the costs of various building types. There is also a need for a more sensitive and accurate method of bringing prices up-to-date than is afforded by the various published cost of building indices.

Practice

The main theme under this heading was that of conveying information to contractors. A number of those giving evidence thought present methods inadequate for the builders to understand architects' intentions or to price as keenly as they might, particularly if the work was unfamiliar, or specially designed for economy. There was agreement that builders should be given drawings as well as the bill of quantities on which to tender. Apart from sending the working drawings with the bill, two approaches to this problem were shown to the committee. One is to prepare separate drawings for each separate operation on site (e.g. brickwork; windows and doors; electrical installation, etc.), so that the builder may price, or sub-let and administer the work more conveniently. The other is to draw the estimator's attention to items of repetitive work (e.g. concrete shuttering; windows, etc.) by measuring them in the bill in a way that is more fitted to the builders' costing methods. In this connection there was some criticism of out-of-date methods in the Standard Method of Measurement. On the elemental bill of quantities (i.e. where items are grouped according to the elements of cost analysis) opinions were mixed. One architect and one quantity surveyor who had used them felt that the advantages outweighed the difficulties and reported that although site agents like them, estimators found pricing them more difficult than with trade bills. It was emphasised that in making experiments of the kind mentioned, builders should be fully consulted.

One consulting engineer (services) suggested that it should be the custom for consultants to take off their own quantities and that if supplied with measured bills as a general practice, specialist sub-contractors would probably give lower tenders than without bills.

Conclusion

Although the committee received evidence from a comparatively small number of people, they formed the opinion that evidence from a greater number of people would only have confirmed what they had heard.

PART 2. COST CONTROL METHODS

Introduction

A number of architects and quantity surveyors employ procedures or techniques of control over the cost of their buildings which differ from those of ordinary custom. While cost control is in its present exploratory phase the committee think it would be useful to pass on to the profession information about such methods for those who might make further use of it, and thus add perhaps to the common fund of experience. The committee therefore invited a number of architects and surveyors to explain their methods and a number of these are described below. The committee wish to thank all those who gave evidence, whether in writing or in person, for their help.

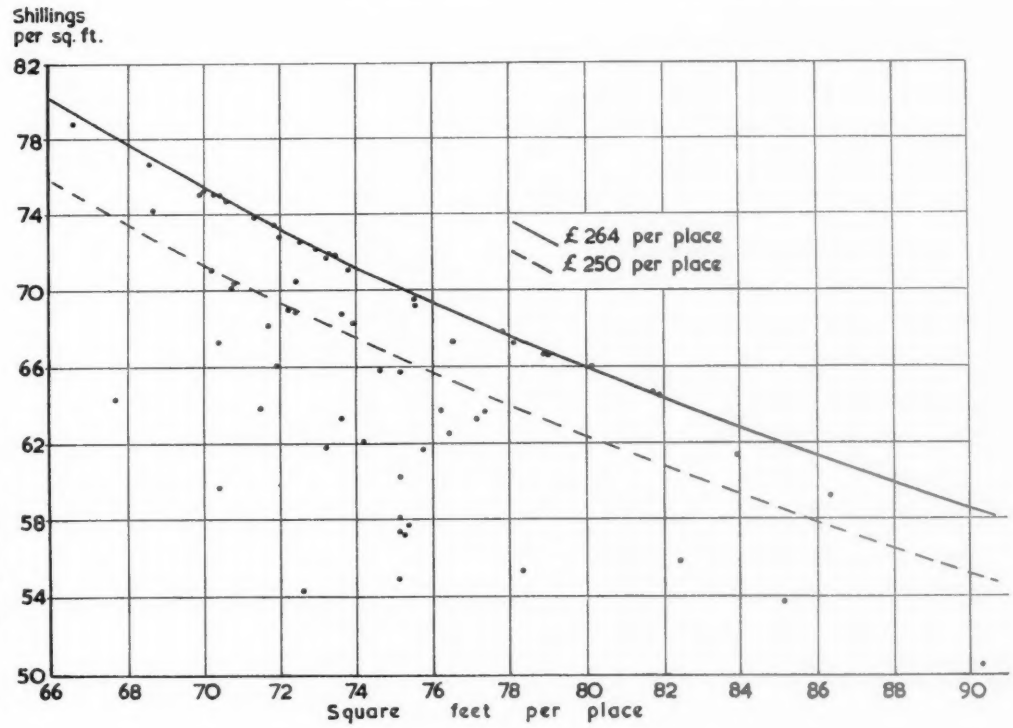
* See the R.I.B.A. JOURNAL of May 1957 and February 1958.

(1/- = £600 approx.)

SCHOOL	NETT COST PER SQ. FT.	STRUCTURE (5/- 10/- 15/- 20/- 25/- 30/- 35/-)	PARTITIONS (5/-)	SERVICES (5/- 10/- 15/-)	FITTINGS (5/- 10/- 15/-)	PLAYGROUND & DRAINAGE (5/- 10/-)	CONTINGENCIES (5/-)
A	65/3	33/1	1/11	10/9	9/8	8/10	1/-
B	65/11	31/2	4/7	17/-	7/4	3/8	2/2
C	65/4	29/5	3/11	11/9	11/6	7/8	1/1
D	64/8	29/7	3/-	13/-	10/-	7/9	1/4
E	65/5	37/3	3/0	12/3	7/1	4/3	0/10
ELEMENTS INCLUDED		Work below ground floor level; external walls; frame; upper floor construction; staircases; roof construction; rooflights; windows; doors (external); glazing; wall finishes; ceiling finishes; proportion of preliminaries and insurances	Internal partitions; doors (internal); proportion of preliminaries and insurances.	Plumbing (external), (internal), (sanitary fitting); gas, electric and heating installations; proportion of preliminaries and insurances	Floor finishes; W.C. doors and partitions; cloakroom fittings; fittings; furniture (built-in); decorations; proportion of preliminaries and insurances.	Drainage (nett cost); playgrounds and paved areas; proportion of preliminaries and insurances	Contingencies

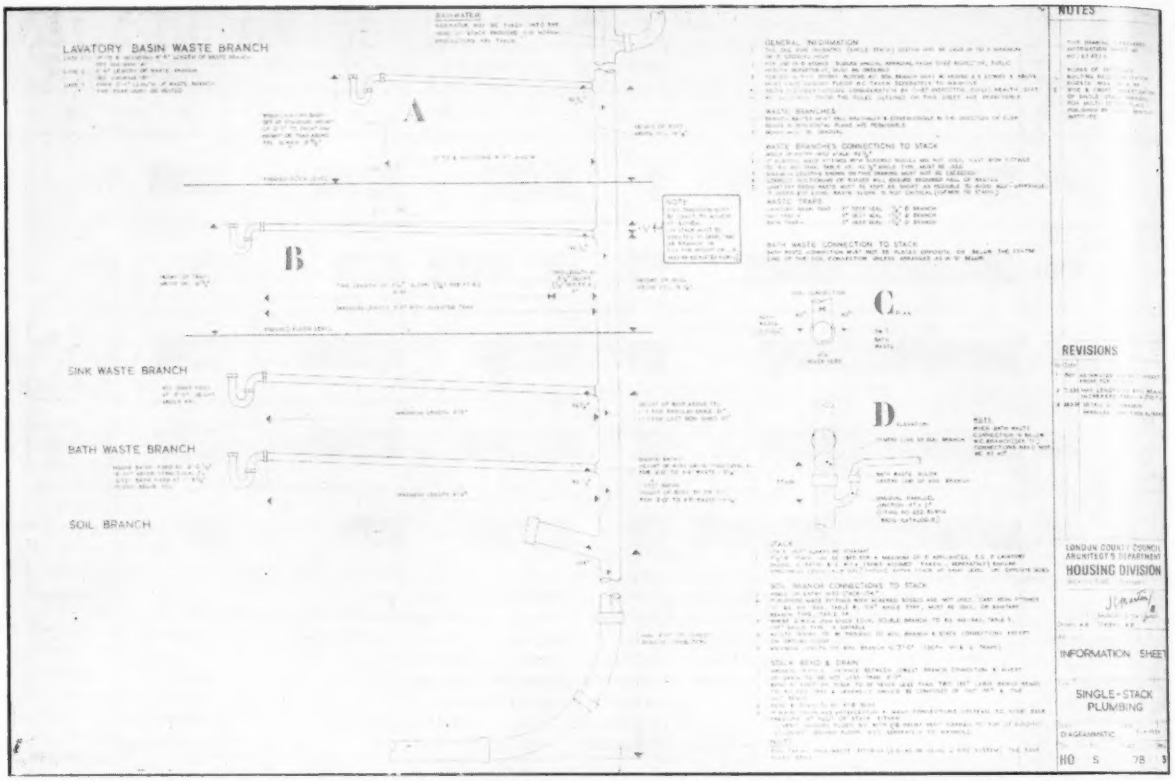
MINISTRY OF EDUCATION: Graphic cost analyses of five different schools showing how the distribution of money among the elements can vary within similar totals. Comparisons of analyses can guide inquiry into the reasons for high or low cost

(*Reproduced from M.O.E.* BUILDING BULLETIN 4 *by permission of the Controller H.M.S.O.*)



The cost per place and the cost per sq. ft. of floor area of 64 secondary schools plotted in graphic form. The solid line curve represents the current limit of cost per place, and the wide 'scatter' of the schools illustrates the variety area per place and unit cost that fall within this limit

(*Reproduced from M.O.E.* BUILDING BULLETIN 4 *by permission of the Controller H.M.S.O.*)



LONDON COUNTY COUNCIL: *Single stack plumbing*. A typical information sheet used by the L.C.C. housing architects. Sheets of this kind ensure that buildings in all schemes conform to the same standards of design

MINISTRY OF EDUCATION

Information supplied by Anthony Pott [*A*], Chief Architect, and James Nisbet, A.R.I.C.S., Principal Quantity Surveyor

Cost Analysis

The method described here was developed for use by the M.O.E. on its own projects and was published in Building Bulletin 4 (1951) revised edition (1957) for use by local authorities and others engaged on school building. It is essentially a method of comparing costs and of studying the distribution of money among the various elements of a building.

An element is a part of a building related to the way an architect builds up his design, e.g. foundations; external walls; roof; floor finishes; heating installation, etc. The *cost analysis* of a building shows the cost of each of these elements expressed as shillings and pence per sq. ft. of floor area and may be abstracted from a priced bill of quantities. A simple ratio, area or number expresses the *quantity* of each element and brief specification notes, the *quality*. Cost per sq. ft. of floor was chosen because it is usually a reasonable measure of accommodation and it allows comparison of buildings of different sizes and methods of construction through a common denominator.

This kind of cost breakdown allows the architect to relate the cost of an element to the function it performs; to compare the same element in different buildings and to plan the cost of new projects.

Cost Planning

Cost planning is a method of controlling the distribution of money during the design process. It begins with the first sketch design and requires the cost analysis of one or two previous buildings of a similar type to the one being designed—preferably buildings with which architect and quantity surveyor are familiar. Information on the *quantity*, *quality* and *cost* of each element in the analysis is used to set a cost target for each element in the projected building. For example:—

The Cost Analysis may give:

External walls

ratio	cost per sq.ft.	specification
0·350	3*s.* 0*d.*	11 in. cavity wall, one skin common brickwork, one skin facings at 120*s.* per M.

The Cost Plan might be:

External walls

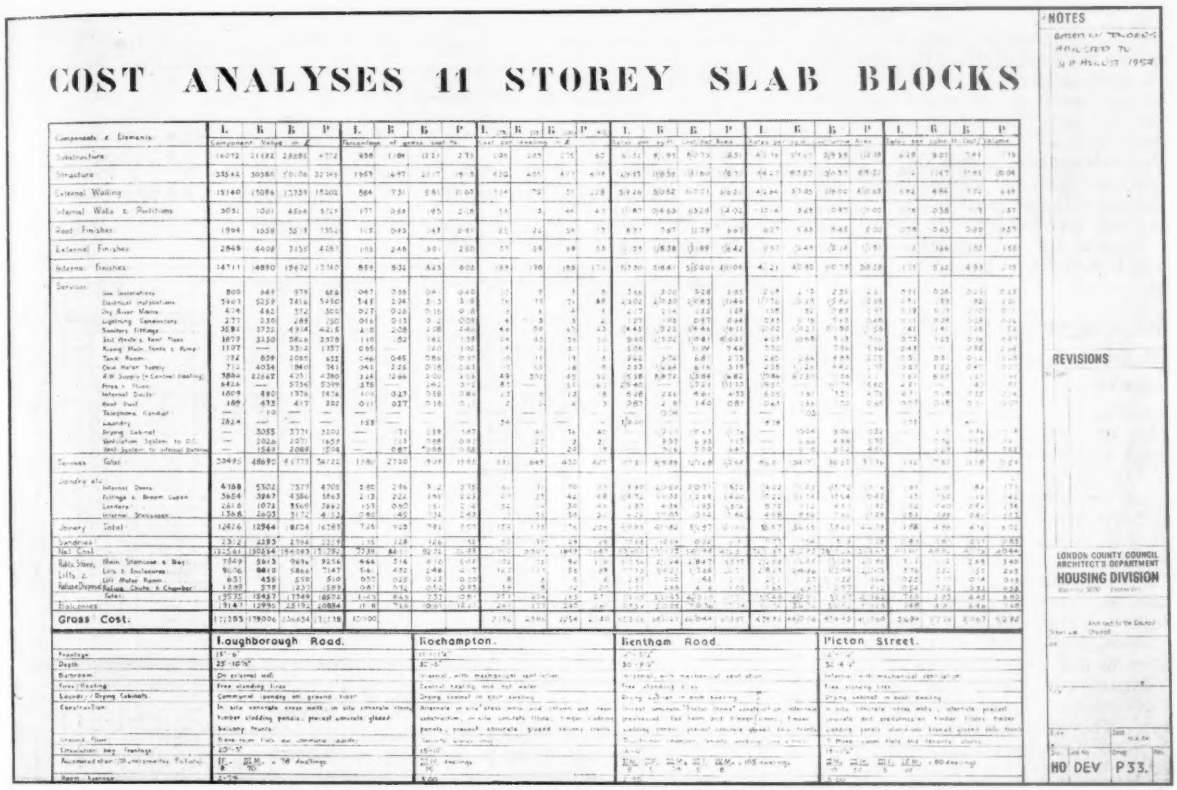
ratio from sketch design: 0·400

therefore cost per sq. ft. increased $\frac{3s. \times 0{\cdot}400}{0{\cdot}350} = 3s.\ 5d.$

But architect requires thermal insulation to be improved and better external appearance. This is assessed at plus 12½ per cent

3*s.* 5*d.* + 12½ per cent = 3*s.* 10*d.* (target price)

Architect and quantity surveyor work together in calculating targets like this and in formulating the whole cost plan. The more detailed working out of the design then proceeds, the architect studying various possibilities for the material and method of construction of each element. Each possibility is priced on preliminary sketch drawings—by the quantity surveyor or by quotations from suppliers and sub-contractors—and its price compared with the target sum allowed. If more than the target, a cheaper alternative may be considered, or the target increased by compensating reductions in other target sums. If less than the target, the spare money is allotted elsewhere. Periodic adjustments and checks on the cost plan



COST ANALYSES 11 STOREY SLAB BLOCKS

Components & Elements	Component Value on £	Percentage of gross cost %	Cost per dwelling in £	Cost per sq ft of net floor Area	Cubic ft. per sq ft of net floor Area	Cubic ft. per cubic ft. of total volume
Substructure	16072 21182 28885 4772	858 1.04 12.21 2.79	1.96 2.85 2.75 .60	4.31 5.91 5.075 .851	43.76 57.91 59.38 12.38	6.28 9.00 7.41 1.79
Structure	335542 30380 50106 32146	1959 4.97 21.17 18.75	4.20 4.01 4.77 4.04	49.93 11.959 13.160 18.71	134.21 95.87 30.57 69.28	— 1.147 17.85 10.06
External Walling	15140 15096 15739 15202	884 7.31 6.81 10.65	1.84 1.93 1.51 2.28	3.926 3.952 3.977 4.622	41.64 37.85 39.00 40.68	5.92 4.96 5.92 6.69
Internal Walls & Partitions	3052 1001 4624 5721	177 3.58 1.95 2.18	.38 .13 .44 .61	1.87 0.463 1.529 1.402	12.14 3.49 3.87 12.02	1.76 0.58 .73 1.37
Roof Finishes	1994 1059 3513 1356	115 3.93 1.49 .949	.25 .14 .34 .15	6.31 1.967 1.179 .693	6.07 5.48 9.45 5.00	0.78 0.63 0.89 0.57
External Finishes	2848 4409 7135 4281	165 2.48 3.01 2.50	.35 .58 .69 .53	1.95 1.638 1.89 1.642	9.87 3.49 12.14 11.81	1.38 1.66 1.82 1.68
Internal Finishes	14711 4890 19472 15740	854 9.32 8.25 8.02	1.89 .636 1.88 1.71	10.30 5.068 5.800 4.806	4.21 42.40 40.10 38.28	1.15 5.42 4.89 4.35
Services						
Gas Installations	800 649 979 686	047 3.06 .04 0.40	.10 .08 .1 .08	1.66 3.00 3.28 3.85	2.19 1.12 2.35 2.6	0.31 0.26 0.41 0.32
Electrical Installations	5903 5259 7416 5456	343 2.24 3.13 3.19	.76 .70 .76 .69	2.302 2.020 2.093 2.146	17.16 9.49 15.92 13.98	2.41 .99 3.20 2.61
Dry Riser Mains	474 462 572 300	027 0.20 0.16 0.18	.06 .06 .06 .04	4.17 3.14 3.22 1.28	1.08 .52 1.63 1.47	0.19 0.13 0.10 0.11
Lightning Conductors	271 256 289 190	016 0.13 0.12 0.09	.04 .03 .03 .02	1.21 .905 0.87 0.64	0.61 0.19 0.46 0.46	0.09 0.04 0.08 0.06
Sanitary Fittings	3089 3736 4764 4425	1.80 2.08 2.01 2.66	.39 .48 .50 .57	4.43 3.223 3.084 3.081	6.02 10.21 8.90 12.56	.61 1.44 1.25 1.72
Soil Waste & Vent Pipes	1879 3250 3846 2578	1.09 1.82 1.62 1.55	.24 .42 .40 .33	2.60 3.1302 3.1081 2.0261	4.57 10.69 5.13 7.66	0.72 1.23 0.78 0.93
Rising Main, Tanks & Pump	1127 — 3512 1157	0.65 — 1.48 1.02	.14 — .36 .15	3.06 — 11.09 7.46	3.70 — 7.88 7.00	0.49 — 0.92 0.96
Tank Room	734 809 2085 657	0.42 0.45 0.88 0.57	.09 .10 .21 .08	2.66 2.76 6.8 2.73	2.45 2.66 4.95 2.73	0.3 0.3 0.61 0.35
Cold Water Supply	712 4034 1840 761	0.45 2.25 0.78 0.63	.09 .52 .19 .10	2.53 1.644 6.16 3.19	2.35 11.25 4.42 3.15	0.31 1.52 0.41 0.41
H.W. Supply (+ Central Heating)	3884 22647 4251 4380	2.46 12.66 1.79 3.78	.49 2.92 .55 .56	15.18 9.972 13.84 9.82	15.86 62.31 7.96 16.91	1.97 8.07 1.03 2.19
Press + Flues	8426 — 5736 5389	5.35 — 2.42 4.65	1.07 — .74 .69	29.45 — 17.21 11.35	34.41 — 10.73 14.60	4.37 — 2.23 1.89
Internal Drains	1809 490 1376 1474	1.09 0.27 0.58 0.84	.23 .06 .18 .19	6.28 2.16 4.61 4.53	6.05 1.81 4.21 4.75	0.81 0.24 0.57 0.74
Roof Pool	189 473 417 282	0.11 0.27 0.18 0.16	.02 .06 .05 .04	0.67 2.08 1.40 0.81	0.63 1.86 1.32 0.95	0.08 0.24 0.17 0.12
Telephone Conduit	— 119 — —	— 0.07 — —	— .01 — —	— 0.524 — —	— 0.44 — —	— 0.06 — —
Laundry	2824 — — —	1.53 — — —	.36 — — —	10.00 — — —	9.39 — — —	1.22 — — —
Drying Cabinet	— 3055 3771 3202	— .71 .359 .347	— .39 .46 .41	— 7.11 10.41 7.4	— 10.04 9.06 7.32	— 1.31 1.31 1.16
Ventilation System to D.C.	— 2026 2071 1657	— 1.13 .988 0.97	— .26 .25 .21	— 4.53 9.93 5.17	— 6.66 4.94 5.32	— 0.76 1.03 0.77
Vent System to internal Rooms	— 1543 2089 1508	— 0.87 *.588 0.88	— .20 .25 .19	— 3.46 5.08 3.47	— 5.12 3.52 4.85	— 0.58 0.52 0.63
Services Total	30495 48690 61773 56722	11.81 23.20 19.95 19.95	3.81 6.49 6.50 6.25	19.3 30.939 12.168 12.66	96.0 164.7 86.33 131.6	13.92 19.82 13.18 17.24
Sundries etc.						
Internal Doors	4188 5302 7577 4705	2.80 2.96 3.2 3.75	.71 .70 .90 .73	1.90 1.2059 1.2071 .872	6.22 7.63 15.72 5.14	0.91 1.00 .83 .77
Fittings & Broom Cupbds	3654 3967 4586 3863	2.13 2.24 1.93 2.23	.61 .53 .62 .68	1.472 1.032 1.098 1.400	10.22 10.14 10.54 10.42	1.51 1.92 1.62 1.62
Lockers	2618 1072 3560 2662	1.53 0.60 1.51 2.46	.42 .14 .50 .41	1.87 .434 1.95 1.524	9.75 3.10 9.11 .30	1.62 0.60 0.94 .34
Interior Screens	1368 2603 3172 4.326	0.80 1.45 1.34 1.49	.22 .35 .45 .66	1.22 1.055 1.74 1.46	4.08 8.55 7.46 12.39	0.63 1.47 1.14 1.02
Joinery Total	12826 12964 8724 16787	7.25 7.25 7.38 9.67	1.79 1.75 1.24 2.59	4.0795 .0142 5.357 .0	15.57 34.15 17.61 44.78	2.58 4.96 2.74 5.12
Sundries	231.2 2293 2194 1217	.15 1.28 1.26 .72	.03 .31 .29 .19	.113 1.039 0.72 .0	.1.95 1.46 1.3 .8	0.21 0.16 0.21 0.13
Net Cost	1315.81 180634 194083 157792	77.39 84 92.92 92.03	19.43 24.47 27.46 24.32	47.1 57.5 58.48 63.2	111.91 409.6 211.2 311.2	16.97 47.04 20.44 35.64
Rdio Stees, Main Staircase & Bay	7349 5813 9696 9256	4.66 3.16 4.10 3.69	.92 .78 .96 1.06	2.556 2.144 2.847 2.337	24.58 6.69 12.29 11.95	3.11 .72 2.69 3.40
Lifts & Enclosures	9106 9810 5866 7147	5.8 4.92 2.48 2.85	1.15 1.32 .58 .82	3.733 3.424 1.568 1.82	28.15 24.49 14.03 17.03	3.76 2.64 1.37 2.45
Lift Motor Room	651 455 550 510	0.57 0.28 0.23 0.20	.08 .06 .05 .06	2.21 1.545 .94 1.73	2.22 1.64 2.25 1.74	0.25 0.18 0.14 0.19
Refuse Disposal Refuse Chute & Chamber	1280 579 1230 1283	0.81 0.16 0.53 0.85	.16 .06 .12 .16	5.44 1.965 4.6 7.05	4.65 2.07 4.7 7.19	0.64 0.22 0.53 0.68
Total	17377 16467 16892 1403	11.0 6.54 7.34 7.59	2.31 1.82 1.69 1.89	14.95 7.08 8.19 9.83	60.62 34.92 33.77 37.91	8.01 3.83 6.43 8.52
Finishings	9143 12995 2519 20884	11.8 5.16 1.09 12.6	2.4 1.43 .25 2.61	7.86 5.59 1.22 19.46	39.74 49.73 11.68 59.8	5.25 5.46 2.79 5.69
Gross Cost	171383 179006 230454 171138	100.00	25.74 24.46 32.54 24.61	153.81 161.41 160.44 163.85	429.71 443.0 246 474.45	64.24 87.34 57.67 76.92

	Loughborough Road.	Rochampton.	Bentham Road.	Picton Street.
Frontage	15'	17'-11"	17'-7"	21'-0"
Depth	25'-10½"	32'-0"	30'-9½"	32'-4½"
Bathroom	On external wall.	Internal with mechanical vent inlet.	Internal with mechanical vent inlet	Internal with mechanical ventilation
Fires/Heating	Free standing fires	Central heating and hot water	Free standing fires	Free standing fires
Laundry/Drying Cabinets	Communal laundry on ground floor	Drying cabinet in each dwelling	Drying cabinet in each dwelling	Drying cabinet in each dwelling
Construction	In situ concrete cross walls in site concrete floors, timber cladding panels; precast concrete glazed balcony fronts.	Brownie in situ cross walls and internal and rear construction, in site concrete floors, timber cladding panels, precast concrete glazed balcony fronts.	Internal concrete "Bison Wall" construction, external precast Tee beam and timber frame, timber cladding panels, precast concrete glazed balcony fronts.	In situ concrete cross walls, alternate precast concrete and prefabricated timber floors, timber cladding panels, aluminium framed glazed balcony fronts.
Ground Floor	Same room flats as dwelling above.	Specific service units.	Prefabricated bathroom units and kitchen units.	Prefabricated bathroom units and kitchen units.
Storeys per Key Frontage	20'-0"	15'-0"	15'-0"	15'-0"
Recommended for 10% maximum Parking	11'-0" x 20'-0" = 220 dwellings	11'-0" dwellings	11'-0" x 20'-0" = 220 dwellings	11'-0" x 20'-0" = 220 dwellings
Room Expense	£229	£300	£300	£300

NOTES

REVISIONS

LONDON COUNTY COUNCIL ARCHITECT'S DEPARTMENT HOUSING DIVISION

HO DEV P33.

L.C.C.: *Cost analyses.* Cost analyses of eleven-storey slab blocks in four different L.C.C. housing schemes. The element costs, expressed in four different ways, and adjusted to a common date provide cost guidance in the design of new schemes

give an assurance that the total target sum is not exceeded and provided no exceptional tendering conditions occur, the tenders should not cause last-minute changes of specification to elements where they are least desirable such as floor finishes. It has been found that cost planning of this kind adds, but not appreciably, to the time taken to design a building, but there is a saving in not having to prepare reduction bills and agree them with the successful tenderer.

LONDON COUNTY COUNCIL: HOUSING DIVISION

Evidence submitted by
A. W. Cleeve Barr [*A*]

Three stages of control

A first stage of cost control is in the prior approval of type plans of dwellings by L.C.C. Committees and the Ministry of Housing and Local Government. Thus approval of schemes need only be concerned with the assembly of types into blocks and the layout of the blocks on the site. Costs of various ways of assembling types have been worked out and are taken into account when schemes are designed.

A second stage is in investigation of the 'financial result' of a scheme—what rate contribution it will require for support. In this the factors are: cost of land, intricacies of the subsidy system, class of tenant, rates policy of the local authority and capital cost. For example, two- and three-storey blocks are cheaper to build than multi-storey, but earn no subsidy. The subsidy on multi-storey varies with height but not uniformly.

A third stage is in the standard specification used throughout the Division, giving uniformity of standards. The Development Section investigates such problems as ventilation ducts, roof screeds, plumbing, etc., and issues information sheets of recommended methods for them. The Materials Bureau tests materials and helps the Development Section to design such items as doors, hoppers, drying cabinets and heating appliances in collaboration with manufacturers, which are then bulk purchased at an economical price.

Cost investigation

The Cost Investigation section of the Quantity Surveyors' Division makes comparative analyses of schemes to reveal the more costly items and the major cost variations between one type of block and another.

Picton Street

For this housing scheme the nominated contractor was appointed at the design stage and a maximum total target cost for the whole scheme was agreed. The sum was equal to the normal provisional estimate based on type plans using traditional construction. It was divided into targets for each block and then for each element in each block. Architects, engineer, quantity surveyor and contractor, working as a team, then made detailed studies for alternative construction and erection methods, the cost of each being compared with the target price. When methods had been agreed an actual cost (prime cost) type of contract was signed and as work proceeded on site, actual costs were recorded. It was part of the contract that any saving made would be shared between client and contractor.

Schools' Division

This Division is at present preparing to put into operation a form of control similar to that described above for the Ministry of Education. Apart from this, control consists of such measures as limiting the area per place and the proportion of circulation space and of preparing detailed price studies of alternative types of construction. One notable experiment was put into a single contract, five primary schools of the same form of construction but in different parts of London. This has reduced tender prices and the experiment is to be extended.

Quantity Surveyors' Division

A special group of quantity surveyors in this Division prices the bills of L.C.C. jobs

exactly as if they were working for a contractor, to produce comparable estimates of a fair market price. This information is used to judge the acceptability of the lowest tender. It also reveals excessive fluctuations and the comparability of builders' tenders.

Other cost controls exist in the Council's rule that comparisons between tender and preliminary estimate must be made when tenders are submitted to committee and that the cost of a variation must be estimated before a variation order is issued.

GEORGE WIMPEY AND CO. LTD.

Information supplied by E. V. Collins [*A*]

Organisation

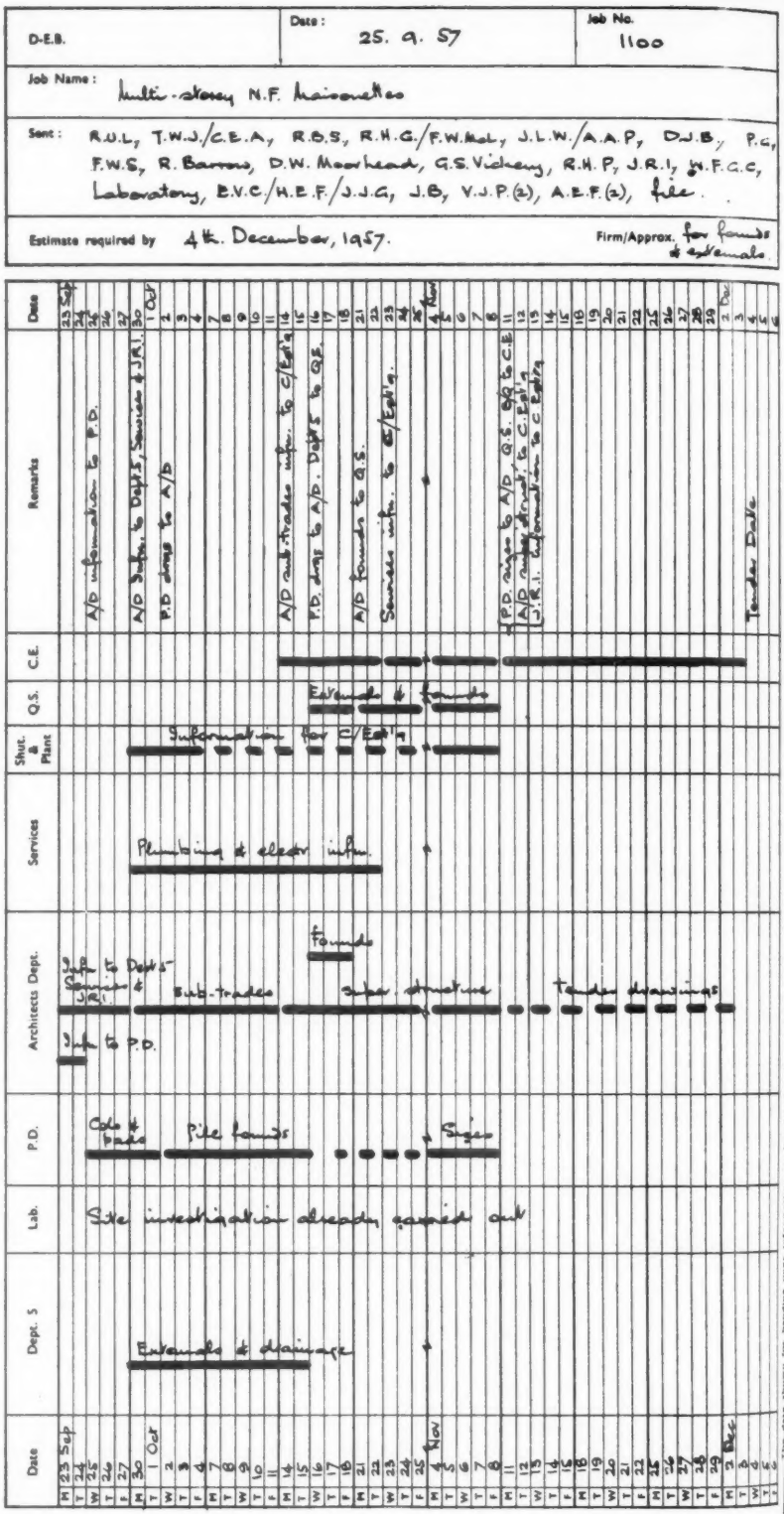
This section describes the cost control methods of a large building contractor's company with its own architects' department. The firm employs about 130 architects, 50 structural engineers and 60 quantity surveyors.

The first response to a commission to design and build is a meeting of senior architects, engineers, quantity surveyors and estimators to consider the project and decide how it shall be tackled. Policy and information notes of this meeting are then prepared by the architects and circulated to all departments that will be concerned, together with a 'design-estimate programme'. This is a programme chart on which each department enters the time needed for its part of the work in designing the project, collecting information, getting approvals and so forth. The designing then proceeds and is guided by a thick foolscap document called the 'design-estimate record' which is both an exceptionally detailed check list and a record of all the information needed to complete the design. The first section with 16 headings sets out the client's instructions; the second with 10 headings gives information on services; the third has 18 headings of specification notes, and the fourth lists all the working drawings, schedules and the company's departmental approvals. The document is partly filled in before work starts on the design and partly during the design work to record decisions as to methods and materials. Its meticulous detail ensures that few items are forgotten and that decisions are known to all and will appear consistently on all contract documents and drawings.

Information

A good deal of the information that might normally go on to drawings is presented on schedules of standard drawing size. Doors, windows, finishes, electrical installation, plumbing, metalwork, pre-cast concrete, heating and hot water installations are treated in this way. Schedules are prepared after the 1/8th scale drawings and they too act as check lists helping to speed decisions.

Apart from these organisational aids to cost control, architects and engineers can draw on cost information in the form of output rates for different kinds of site



GEORGE WIMPEY AND CO. LTD.: *Above:* A 'design-estimate programme'. This document is used to co-ordinate the work of the company in preparing a design and cost estimate for a project. The thick lines represent the time required by each department for its share in the work. The architects' department acts as co-ordinator in this programming

CONTRACT :- TYPE 701 10 STOREY FLATS

ARCHITECTS DEPT JOB No 544 PAGE 10

SCHEDULE OF :- PLUMBERS WORK

George Wimpey and Co. Ltd., Building and Civil Engineering Contractors 27 Hammersmith Grove, Hammersmith, London, W.6.

POSITION	No off	BATH "Magna" white	PANELS Hardboard painted	LAV BASIN w/c E/waste	W.C. w/c E/vare washdown	SINK w/c E/clay Hall Pattern	TRAPS Bath	TRAPS L.Bas.	TRAPS Sink	SOIL & WASTE STACKS System	SOIL & WASTE STACKS Material	SOIL & WASTE STACKS Venting	COLD WATER SERVICES Off Main	COLD WATER SERVICES Off Storage	COLD WATER SERVICES Tanks	HOT WATER SERVICES Source	HOT WATER SERVICES Type of Cylinder	REMARKS	Dwg. No	REVISIONS
BATHROOM	80	5'6"×2'6"	as shown	22"×16"	60		3" deep grnd flr	seal all upper flrs		Modified single stack with WC's only vented			sinks only	baths	Braithwaite	Primary mains from central boiler			544/722	
			on architects drg		to HL 204			1½" seal		4" main soil pipe : 2" main vent pipe.				Lavatory basins	sectional	-house run to indirect hot water			544/723	
SEP W.C	20				high level		1½" ø	1¼" ø	1½" ø	Waste pipes conn to 4" pipe without venting.				cwps.	steel cistern	units situated in linen cupboards				
							solid drawn copper			Grnd flr: WC's direct to drain. Waste pipes					on roof.					
KITCHEN	80					24"×21"×8"				connected to trapped gullies.					9,000 galls.					
										4" main. SWP	cast iron	BSS 416 (medium)			(see drg)					
LINEN CUP	80									2" main VP	cast iron	BSS 416 (medium)		combination			'White Wolf' indirect			
										1½" bath waste	copper	BSS 659		units.			combination unit			
WASH-HOUSE	nil									1½" sink waste	copper	BSS 659					25 galls HW. 10 galls CW.			
										¾" lavb waste	copper	BSS 659					(or similar unit)			
										3" main waste	cast iron	BSS 416								
										for layout see plumbing drawings										

ITEM	No off	DESCRIPTION			
COOKER	80	Gas standard cooker	(cooker not supplied)	544/722	
WASH-BOILER	80	Gas - for gas carcassing see drg	(wash-boiler not supplied)		
JIG-FITTING	nil				
REFRIGERATOR	-				
GAS-IGNITION-POINT	-				
METER-POSITION	80	As supplied by Local Gas undertaking : poen. in. broom cupds. See drg.			
DRYING-CUPBOARD	nil				
DRYING ROOMS.	8	Communal drying rooms on all upper floors - heating coils from central boiler house - as drgs.			
STACKS - IN Tenant	8	see roof plan. Materials and methods of jointing to be as for soil & waste pipes (consisting of 6no 4"ø & 2no 3"ø rwp's.			
STACKS - EXTenant	nil				
Type of Roof OUTLET	10	see drgs			
Type of Access Balcony OUTLET	36	" " Balconies drained by returning untrapped to internal stack			
Type of Private Balcony OUTLET	nil.	" "			
DRY-RISER	1	4"ø Galvd mild steel . BSS. 1387 Class 'C'			
INLET	1	4"ø double inlet with 2½"ø instantaneous couplings & 1"ø drain valve complete fitted at base of riser (ground floor)			
LANDING-VALVES	9	2½" instantaneous coupling valves			
POSITION		in dry-riser cupboard as provided from ground floor to ninth floor (see drgs)			
WET-RISER	nil				
HOSE-REELS	nil				
POSITION	nil				

GEORGE WIMPEY AND CO. LTD.: A typical schedule, the same size as the standard drawings. These schedules also act as check lists

operation. There are weekly returns from sites giving the profit or loss on plant, labour and supervision costs as compared with original estimates. Monthly returns give the same information but include materials. Figures are presented either in terms of bill items or stages of the work. This information is expensive to collect but worth it, for with the ability to design for specific methods of erection and types of mechanical aid, the architects have much more precise guidance in choosing methods of construction and detailing than if they were in private practice. Moreover they are less exposed to the hazards of delay and change of plan. In giving evidence to the Committee, the company's architect said that he suffered no interference with his freedom as a designer.

BRUNTON, BADEN HELLARD AND BOOBYER

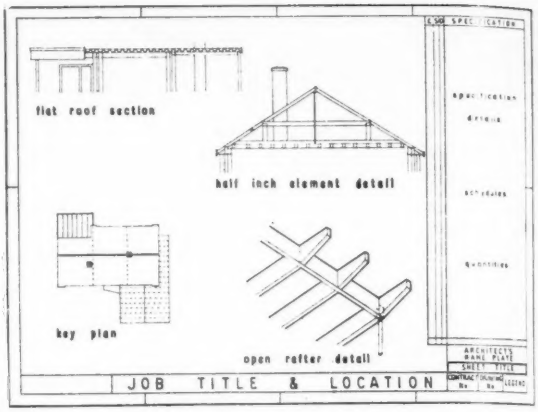
Evidence submitted by
R. Baden Hellard [*A*]

The problem

This small to medium size private practice experienced the common difficulty of getting reasonable tender prices for small jobs using unconventional types of construction specified to reduce costs. They had also been commissioned to design some experimental buildings to incorporate new and untried materials in order to compare them with their conventional equivalents. It was clear that neither of these problems could be solved with customary types of drawings, quantities or tendering procedure.

The method

The method tried was to prepare a set of drawings corresponding to the main site operations, each drawing showing all and only the information required for one 'operation', e.g. brickwork; roof construction; electrical installation, etc. Besides the actual drawing, each sheet contained a panel of specification notes and in some cases measurements of quantity for tendering and ordering with cash columns for the tender prices. Quantities were shown, not according to the Standard Method of Measurement, but in a way suited to contractors' method of pricing. The whole system was worked out in consultation with a quantity surveyor and a builder. Annotation of the sheets was made with a 36 in. carriage typewriter, the standard 'imperial' size sheets being used. In some cases it was possible to draw one master sheet and to use goldback negative prints, suitably erased and added to for the other sheets.



BRUNTON, BADEN HELLARD AND BOOBYER: An example of an 'operational' drawing. A set of these, each one covering the work of one operation, showing specification notes and in some cases quantities, forms the working drawings for a project

The results

Once contractors have got used to the unfamiliar presentation of information and are able to adjust their pricing methods, operational drawings have yielded more precise and rational pricing. The breakdown of the total tender into separate operational costs allows a more or less straightforward comparison of the same operation in different jobs and provides information for cost planning and approximate estimating. But perhaps the most striking result is the effect on the architect's own organisation. To put all the information for an operation on one sheet avoids the duplication of conventional drawings and specification writing and helps towards completeness of the information, for operational check lists can be compiled. Standardised presentation simplifies the keeping of drawing office time records and the programming of assistants' time. Lettering by typewriter has also been found to save time.

Another consequence of having all the information on one sheet, is that tendering and management of sub-contracted work is more straightforward and clearly defined.

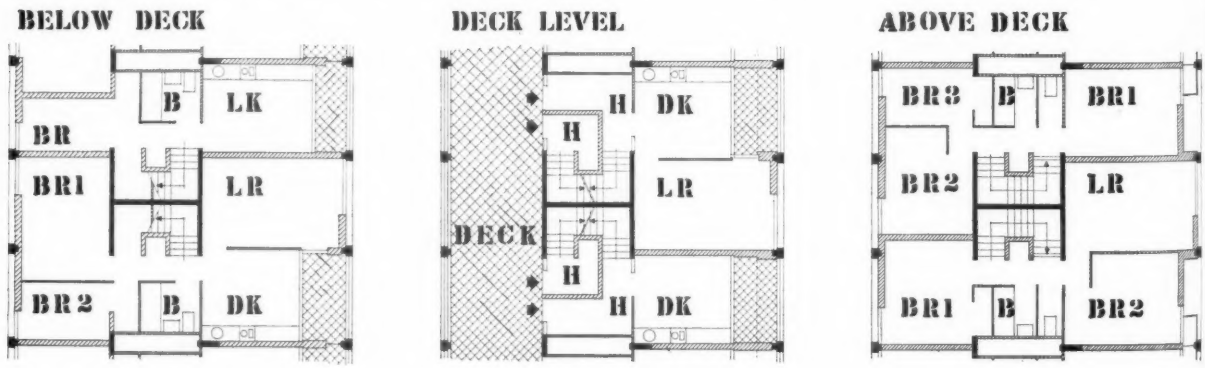
The method of cost control here described has been used so far only on jobs of modest size, where each operation will go on to one sheet. This might not be possible for larger works. Another problem is that contractors take some time, and persuasion, to realise fully the simplification of the method. Experience has shown that they must be consulted from an early stage in a project if it is to work properly in the contract stage.

SHEFFIELD CITY COUNCIL: THE PARK HILL SCHEME

Information supplied by
J. L. Womersley [*F*], City Architect

The Problem

Cost control methods here described were adopted for the design of 976 dwellings in blocks of 4 to 13 storeys, on a sloping site at a density of 200 habitable rooms per acre. The dwellings were in the form of flats and maisonettes alternating vertically in the blocks. The aim was to make

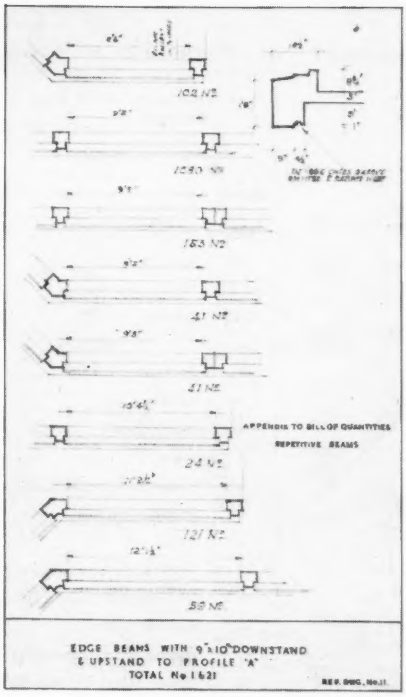


PARK HILL, SHEFFIELD: Plans of the basic unit of flats and maisonettes, showing the repetition of kitchen and bathroom units within an r.c. structure which itself was designed to allow repetition of shuttering

the financial consequences of the scheme broadly comparable to those of two-storey housing on the periphery of the city. Hence an average target price per dwelling was set at £2,000. This was in 1955.

Planning and Costing

The aims were: as much repetition as possible in kitchens, bathrooms and staircases; use of a wide 'deck' access which was believed (and has since been proved) to be a cheap form allowing economy in the number of lifts; repetitive structural system allowing economy in shuttering and standardised plumbing installations. A basic three-storey four-dwelling unit was designed with close collaboration between architect, engineer and quantity surveyor. Approximate bills of measurement were taken off in a form enabling comparisons of alternative materials and types of construction to be made. The breakdown was partly into elements and partly into features of the construction. Final choice of method or material was made in the light of approximate estimates or quotations from specialists, the total working out at an average of £2,360 per dwelling, including central heating, 'Garchey' refuse disposal, site layout and fees. The City Treasurer then made an appraisal which suggested that financially the Park Hill scheme in the city centre was to be preferred to a two-storey estate on the outskirts of the City.



PARK HILL, SHEFFIELD: One of the drawings bound in with the bill of quantities showing r.c. work. These were included to make clear design economies and to help contractors price the work accurately and realistically.

Contract Documents

Working drawings were prepared with exceptional thoroughness and completeness. Bills of quantities were set out in a way that enabled tenderers to take account of design economies in their pricing. Two supplementary bills were included dealing with the timber and concrete elements in the scheme, drawings of the various types of components and the number of repeats being included.

Tenders

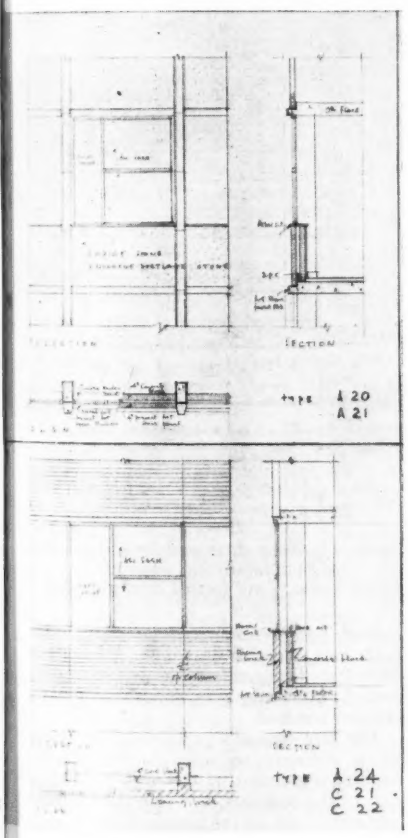
Tenders were received on October 1956 and the lowest were well within the estimated cost given in March 1955.

T. P. BENNETT AND SON

Information supplied by
Sir Thomas Bennett [*F*]

Sketch Design

Alternative designs are prepared. For offices these might show different arrangements of blocks of varying numbers of floors and depths of office space; for factories they might show alternative arrangements of roof and column spacing. Costs of the alternative estimates are prepared by quantity surveyors and by the firm, but figures are not in the first instance given to the client. Instead, the schemes



Ref.	Window type	Cill	Window Board	Mullion	Transom at Floor level	External Apron	Internal Skin	Cost £
A/20 No. required 203	Ali. sash 6 ft. 3 in. by 6 ft. 3 in.	Ali.	Wood	8 in. by 7½ in. Art Stone	Structural floor faced art stone	4 in. Empire Stone	4 in. concrete block	77
A 21	Ali. sash 6 ft. 3 in. by 6 ft. 3 in.	Ali.	Wood	8 in. by 7½ in. Art stone	Structural floor faced art stone	3 in. Portland stone	9 in. brick	80
A 22	Ali. sash 6 ft. 3 in. by 6ft. 3in.	Ali.	Wood	8 in. by 7½ in. Art stone	Structural floor faced art stone	Facing brick	4 in. concrete block	68
A 23	6 ft. 10 in. by 6 ft. 3 in.	Ali.	Wood	—	—	3 in. Portland stone slabs	9 in. brick	89
A 24	6 ft. 10 in. by 6 ft. 3 in.	Ali.	Wood	—	4 in. Nib-faced art stone	4½ in. facing brick	4½ in. brick	64
C/20 No. required 351	Ali. sash 6 ft. 3 in. by 6 ft. 3 in.	Ali.	Wood	Structural column cement paint	9 in. floor slab cement paint	4½ in. facing brick	4½ in. brick	54
C/21	6 ft. 10 in. by 6 ft. 3 in.	Ali.	Wood	—	Cement paint 4 in. concrete Nib	4½ in. facing brick	4½ in. brick	64
C/22	6 ft. 10 in. by 6 ft. 3 in.	Ali.	Wood	—	9 in. floor slab and cement paint	4½ in facing brick	4½ in. brick	63
C/23	6 ft. 3 in. by 6 ft. 3 in.	Ali.	Wood	Aluminium plate	4 in. concrete Nib and cement paint	4½ in. facing brick	4½ in. brick	60

T. P. BENNETT AND SON: Portion of a drawing showing a number of alternative methods of constructing external wall panels in a framed building. These alternatives are priced by the quantity surveyor as shown in table above

APPROXIMATE ESTIMATE

Schedule of alternatives placed before the client

	£
Basic standard construction and contingencies as Estimate, March 1952	312,000
Items taken from original Estimate dated March 1952:—	
1. Normal air raid shelter 7,500 / Extra for Grade A 5,500	13,000
2. Additional Portland Stone facings increased to	30,000
3. External entrance marble wall lining 5,000 / 4. Entrance door and surrounding 5,000 — reduced to	8,000
5. Bronze windows on ground floor revert to steel, omit extra of £3,000	nil
6. Double windows to directors' rooms	2,000
Double windows to offices, Floor C	2,000
7. Bronze railings revert to wrought and cast iron	2,000
8. Hardwood strip flooring, floating floors, extra screeds, etc., increased to 13,500 / 9. Rubber substituted for hardwood strip in general offices saving 1,000	12,500
10. Rubber flooring in corridor increased to	800
8a. Terrazzo and marble floor finishes, item 8a, increased to	6,500
11. Terrazzo treads, risers and dados to stairs, increased to	3,500
12. Marble on main stairs, ground to first, increased to	2,000
13. Terrazzo or tiled wall linings to lavatories generally and marble to directors' lavatories	
Entrance hall and lift lobbies increased to	11,000
Tiling in lieu of paint in boiler rooms reported 27 July	500
Tiling in lieu of paint in all upper floor plant rooms, switch rooms and lift motor rooms, reported 27 July	1,000
16. Tiling to floor of kitchens with floor channels	1,500
	408,300

T. P. BENNETT AND SON: Portion of a schedule of alternative finishes and treatments with prices. These are discussed with the client so that decisions as to the quality of the building may be made, relative to cost

COST BREAKDOWN

Job TECHNICAL COLLEGE WORKSHOPS | Job No. | Stage | Date

Area within External Walls 6,345 sq. ft.		PR. 130	Completion	April, 1955
SERIAL	SUMMARY — ELEMENT	Percentage of Nett Cost	Cost of Item £	Cost per sq. ft. s. d.
1–2	Preliminaries	14·5	3,032	9 6½
3–13	Building Shell	55·5	11,612	36 7½
14–18	Finishes and Fittings	6·6	1,382	4 4
19–27	Services	23·4	4,871	15 4½
	DETAILS			
1	Preliminaries and Insurances	14·5	3,032	9 6½
2	Contingencies	—	Nil	—
3	Work below ground level	9·8	2,057	6 6
4	Frame	22·8	4,754	15 0
5	Upper Floor and Staircases	—	—	—
6	Roof Construction	7·2	1,497	4 8½
7	Roof Lights	—	—	—
8	External Walls and Cladding	4·6	968	3 0½
9	Windows and External Doors	5·9	1,242	3 11
10	External Glazier	·1	22	0¾
11	Internal Partitions including Glass	2·6	538	1 8½
12	Internal Doors including Glass	2·5	534	1 8½
13	W.C. Partitions and Doors	—	—	—
14	Wall Finishes	—	—	—
15	Floor Finishes and Skirtings	3·5	742	2 4
16	Ceiling Finishes	—	—	—
17	Decorations	1·8	371	1 2
18	Fittings	1·3	269	10
19	Plumbing (External)	·2	43	1¾
20	Plumbing (Sanitary Fittings)	·2	43	1¾
21	Plumbing (Internal)	·5	97	3¾
22	Heating and Ventilating Installation	11·9	2,483	7 9¾
23	Electrical Installation	6·5	1,355	4 3¾
24	Gas Installation	·3	54	2¼
25	Drainage	3·8	796	2 6
26	External Building Works	—	—	—
27		—	—	—
	NETT COST	100%	£20,897	65 10½
28	Site Works and Landscape			
	GROSS COST		£	
	Increased Costs			
	TOTAL COST		£	

GRENFELL BAINES AND HARGREAVES: Standard foolscap sheet used for cost planning. Target prices adopted at sketch design stage and subsequent adjustments to the distribution of money, made as the design develops, are entered on these sheets.

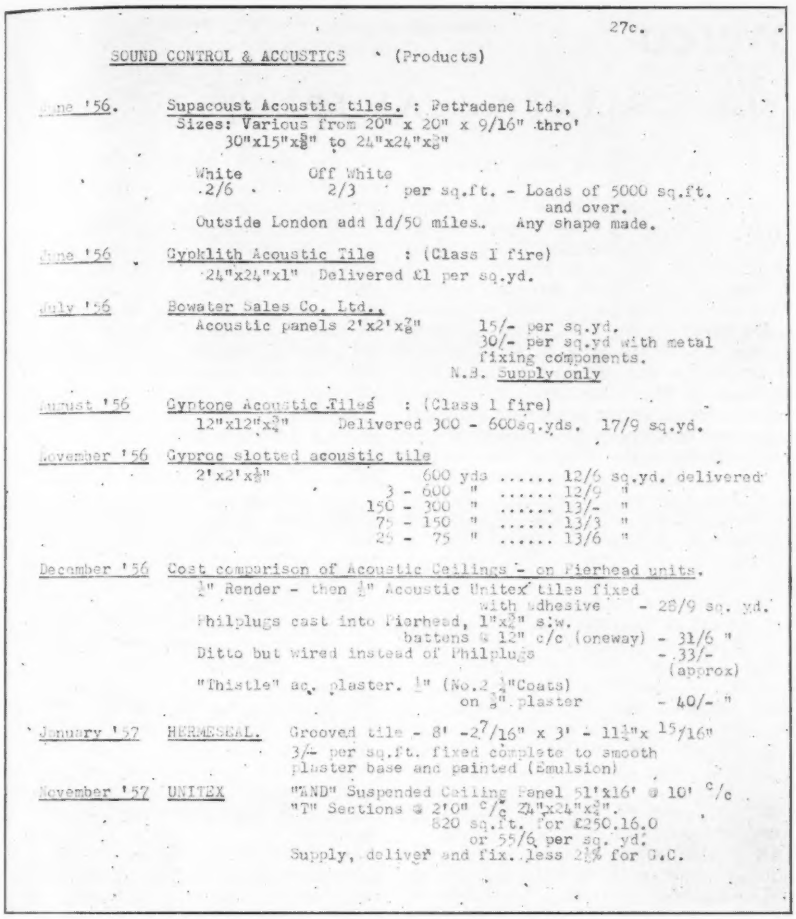
are presented as differing by so much per cent from each other. The implications of choice are discussed with the client and when he has decided which scheme, it is further developed and its cost estimated by approximate quantities, showing the distribution of money broadly by trades. For office buildings the rental of different plan arrangements will be calculated and discussed with the client.

Cost Comparison

At the next stage of the design, alternative methods for elements such as external walls are worked out and priced by the quantity surveyor. On one office block, nine different wall panels spanned from £49 to £89 per bay. Alternatives will also be worked out for floor finishes, main entrance treatments, staircase, internal wall finishes and so forth, representing different standards of building quality so that the client may choose, in the light of advice as to maintenance, etc., which quality he wants.

In a few cases the firm goes to greater length in cost comparison. For example, in 1952 a block of flats was designed for a steel and a reinforced concrete frame with two sets of drawings and bills of quantity. Ten tenders showed that reinforced concrete was considerably the cheaper method.

The firm makes a practice of submitting to its clients a monthly or two monthly running statement of the anticipated final cost of the contract, showing the additions and omissions to the contract figure.



27c.

SOUND CONTROL & ACCUSTICS (Products)

June '56. Supacoust Acoustic tiles. : Petradene Ltd.,
Sizes: Various from 20" x 20" x 9/16" thro'
30"x15"x⅜" to 24"x24"x⅜"

White .2/6 Off White 2/3 per sq.ft. - Loads of 5000 sq.ft. and over.
Outside London add 1d/50 miles. Any shape made.

June '56 Gypklith Acoustic Tile : (Class I fire)
24"x24"x1" Delivered £1 per sq.yd.

July '56 Bowater Sales Co. Ltd.,
Acoustic panels 2'x2'x⅜" 15/- per sq.yd.
30/- per sq.yd with metal fixing components.
N.B. Supply only

August '56 Gyptone Acoustic Tiles : (Class 1 fire)
12"x12"x½" Delivered 300 - 600sq.yds. 17/9 sq.yd.

November '56 Gyproc slotted acoustic tile
2'x2'x½" 600 yds ..... 12/6 sq.yd. delivered
3 - 600 " ..... 12/9 "
150 - 300 " ..... 13/- "
75 - 150 " ..... 13/3 "
25 - 75 " ..... 13/6 "

December '56 Cost comparison of Acoustic Ceilings - on Fierhead units.
½" Render - then ½" Accoustic Unitex tiles fixed with adhesive - 28/9 sq. yd.
Philplugs cast into Fierhead, 1"x⅜" s:w. battens @ 12" c/c (oneway) - 31/6 "
Ditto but wired instead of Philplugs - 33/- (approx)
"Thistle" ac. plaster. ½" (No.2 ½"Coats) on ⅜" plaster - 40/- "

January '57 HERMESEAL. Grooved tile - 8' -2 7/16" x 3' - 11½"x 15/16"
3/- per sq.ft. fixed complete to smooth plaster base and painted (Emulsion)

November '57 UNITEX "AND" Suspended Ceiling Panel 5l'x16' @ 10' c/c
"T" Sections @ 2'0" c/c 24"x24"x⅜".
820 sq.ft. for £250.16.0
or 55/6 per sq. yd.
Supply, deliver and fix. less 2½% for C.C.

GRENFELL BAINES AND HARGREAVES: Page from the office 'cost bible'. Approximate estimates by the quantity surveyor, quotations and other cost information are recorded in this book to form a fund of cost data used in cost planning

GRENFELL BAINES AND HARGREAVES

Information supplied by
John Wilkinson [*A*]
and Arnold Towler, A.R.I.C.S.

Cost Planning

The office employs about 25 assistants, most of whom are qualified, and work mainly on schools. Their quantity surveyor is in independent practice, but his office is adjoining that of the architect. The firm prepared its first cost plan by averaging from a number of analyses of schools not designed by themselves. This sketch cost plan was progressively revised as design work on the project developed and approximate estimates or quotations were prepared to compare with the element targets. This procedure enabled the architects to keep control of the distribution of cost within a target total.

Subsequent buildings were designed in much the same way, except that the various estimates and prices gradually accumulated in a fund of cost information which itself was used for cost planning. This information has been assembled in an office 'cost bible', used by the architects' staff, who do a certain amount of cost calculation for themselves and have become as familiar with floor area cost rates as they are with, say, Munsell colour references. The office makes a practice of submitting cost plans with sketch plans, the cost consequences of changes that the client requires being shown to him and discussed in this form. The effect of this is to strengthen confidence between client and architect.

In the development and practice of cost planning, the firm found that less revision of detail was required, resulting in a saving of effort by both the architect and quantity surveyor.

PART 3. FIVE SELECTED ARTICLES ON COST CONTROL

COST STUDY. Ministry of Education BUILDING BULLETIN 4 (revised 1957).
Uses and purpose of elemental cost analysis for schools. Cost comparisons and preparation of cost plans. Twelve appendices: influence of plan shape on cost; definition of 'nett', 'additional' and 'gross' costs; list and description of elements and of quantity factors; specimen abstract; cost analyses of 3 primary and 4 secondary schools; tender costs per place and per sq. ft. of 64 secondary schools; grouped element costs of 5 primary schools; study of the effect on cost of increasing the number of storeys; elemental bills of quantities; sequence of the architect's work; an example of cost planning.

COST INVESTIGATION.
Paper by Sir Thomas Bennett to the R.I.C.S. THE CHARTERED SURVEYOR, May 1946.
Inadequacy of pre-war costing arrangements, difficulty of comparing like with like. Need for better methods of cost control with increasing public expenditure on buildings. Importance of presenting to client his total commitments. Comparison (with tables) of four different ways of developing housing site at 100 persons per acre—discussion of foundation, roof and site work costs. Discussion of cubing. Comparison (with tables) of man hours expended on bomb damage repairs. Need for the establishment and publication of standard output rates for building operations and for more thorough and complete preparation before building.

COST ANALYSIS. THE CHARTERED SURVEYOR, May 1958.
Policy of the R.I.C.S. Cost Research Panel. Critique of three methods of analysis—by trades, by elements, by 'techniques'. Description of the latter method for the Panel's investigation of the cost of houses and flats. Future use for other building types.

PLANNING THE COSTS. THE CHARTERED SURVEYOR, May 1958.
Shortcomings of local authority and Ministry procedure in the control of housing costs. Need for target costs. Cost figures and plans of two alternative layouts for the same housing site. Need for pricing of alternative methods of construction at sketch design stage (illustrated example given). Cost aspects of tendering. Nomination of specialists, need for teamwork, summary.

COST ANALYSIS AND COST PLANNING.
John Carter. ARCHITECTURAL REVIEW, April 1958.
Method of relating cost to the functions of a building and to floor area. Use of elemental cost analyses to prepare cost targets at early sketch design stage and adjustment of targets during the working out. Varying opinions about analyses and the implication of cost distribution of buildings (illustrated) for theory and architectural education. High cost of services. Use of analytical breakdown for programming and drawings.

ACKNOWLEDGMENTS

In addition to those already mentioned, the committee are indebted to the following for evidence given in writing or in person:

MR. J. C. EASTWICK-FIELD [*A*] and MR. J. C. STILLMAN [*A*].
MR. T. R. EVANS [*A*] of Yorke, Rosenberg & Mardall, and MR. E. H. WILSON, F.R.I.C.S.
MR. JOHN CARTER [*A*], Assistant Editor of the ARCHITECTS' JOURNAL.
MR. R. A. RATHBONE [*A*] of the Department of Estate Management, University of Cambridge.
MR. F. SAMUELY, B.SC., A.M.I.C.E., M.I.STRUCT.E.
MR. J. S. MCCULLOCH, ASSOC.I.E.E., F.I.E.S., of R. W. Gregory & Partners, Consulting Engineers.
MR. W. J. REINERS, Building Research Station.

Scandinavia Discovered*

By N. Keith Scott, M.A., M.Arch.(M.I.T.), B.Arch., A.M.T.P.I. [*A*]

SOME MONTHS AGO I decided to revisit Denmark and Sweden and then extend my travels by crossing, for the first time, into Finland. I was eager to see how the architecture of the two former countries measured up to my wide-eyed enthusiasm of seven years ago. Then, straight from school and brought up in a period of austerity which produced much frugal ingenuity but little lasting art, I was overwhelmed by the essentially civilised architecture which blossomed on all sides. Would I find the same straightforward, yet sophisticated architecture, the same refinement of detail, the same sure feeling for colour in a material, the sense that nothing was being asked to undertake a task it could not readily perform?

Then what of that much more mysterious land farther afield where great forests merge imperceptably into innumerable lakes and the name of Aalto is nationally revered and whispered in the same breath as Nurmi and Sibelius?

I will deal with my disappointment first, and briefly. Sweden! My feelings may best be summed up by saying that while the buildings which first excited me in 1951 moved me still, the great majority of those built in the intervening years seemed on the whole to be spent and lifeless. The Swedes themselves are very conscious of this and various excuses are advanced—too 'cushy' a life, an over-ripe society, etc. But perhaps most telling is the fact that there is far too much work for far too few architects, resulting in scamped work and a thoughtless reliance on past forms and solutions.

Asplund's crematorium and town hall, Lewerentz's theatre, the glorious residential triumphs on the island of Lidingö; these things are still vital and stir the imagination in a way that is too seldom experienced now. This time, only the new housing around Göteborg, the conception of the new town at Vällingby, and Ericsson and Gandviks' town hall at Boräs evoked these old enthusiasms. Even here, reservations come to mind—the indifferent quality of the architecture of some of the housing, and of the cliché-ridden shopping centre at Vällingby in particular, and the basically derivative plan of an otherwise quite delightful town hall at Boräs. These thoughts are sad, but well known to most British architects, and I would rather allocate the majority of my space to discussing what are, to my mind, more positive achievements.

For me, Denmark fulfilled all my hopes. In spite of appalling weather the freshness of their best work and the high standard of all the detailing came vividly through the murky gloom which pervaded most of my stay. Looking back, I can remember little work of any structural novelty. Rather, it is the imaginative, sensitive use of traditional materials which lingers in the memory. The Danes have a lovely pale red-brown hand-made brick with the same horizontal dimensions as ours but thinner (an aesthetic asset, I feel), and nearly always laid with at least a $\frac{3}{8}$-in. raked-out joint. This technique gives depth and texture to a wall and, used as it is throughout Scandinavia to Northern Finland, seems to give the lie to the popular British illusion that the action of frost and so on will impair the life of the wall.[1]

A great deal of natural hardwood is used, and its warmth is very often accentuated in glazed frames by using it in conjunction with white paint—white frames with hardwood beads or vice versa. Roofs are very often pitched and covered with traditionally laid tiles or slate, though the amount of cover given at eaves and verges in particular, is often non-existent and open to some criticism on functional grounds.

Of course none of these items individually comprise the essence and vitality of Danish architecture. It is the way they are put together. Take the houses at Klampenborg for instance, or some of the new schools around Copenhagen. The massing is wonderfully imaginative and boldly conceived. Though covered in traditional slate, the roofs are cut around with raking eaves, and interrupted verges in a manner which is quite new to 20th-century architecture. The different scale which one immediately senses about a Danish building is largely accounted for by the fenestration. Windows are very often square and glazed with one huge single pane (5 ft. square is quite common). Devoid of all intermediate glazing bars, leaded lights and directional emphasis, these windows seem to reduce the scale of the building and impart to it an immediacy which is quite delightful.

There is a welcome relief from curtain walls, exposed aggregates, pure colours, modular grids and many of the rather modernistic appurtenances with which we tend to clutter our buildings in England just now. In the main, the current best in Danish architecture seems to be a consolidation of all that is fine at Åarhus, both at the town hall and the university, and contrives to be a careful avoidance of the pitfalls of folksiness and pure whimsy with which the latter building in particular is strewn.

I should stress that this relief is general but not universal. There is a wealth of important buildings which is quite outside this general trend. Two such examples come from the hand of Jacobsen—a sort of Danish Saarinen in the catholicity of his grasp of various contemporary idioms. The first is a superb curtain-wall job, an office block in Nyropsgade in the heart of Copenhagen. For colour, texture, linear grace and refinement of detail this is easily the finest building of its kind I have seen either in Europe or North America.

The second Jacobsen building which immediately springs to mind is the town hall at Rødovre (I doff my hat to any Englishman capable of making a sound remotely approximating it!) in the suburbs of Copenhagen.

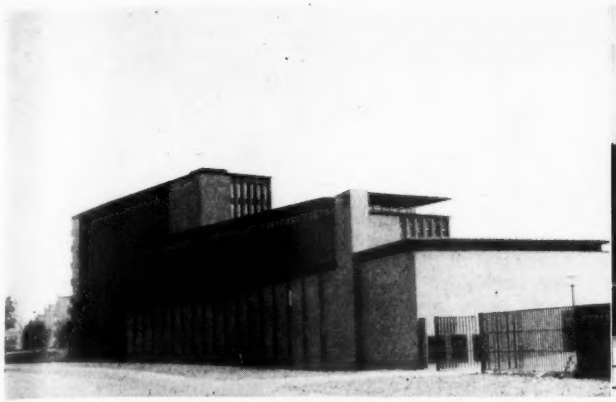
This is Mies carried to his unemotional nth. Here, one senses the struggle for classical perfection. The air is nearly too rarified to breathe. Only in the council chamber does one feel that the structure is meant to house human beings. For the rest, the building seems to object to man's presence—an aversion which has not escaped the notice of its inhabitants, who told me of their preference for their old quarters.

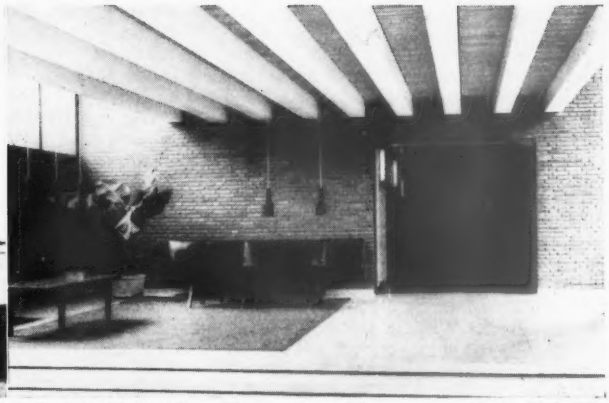
In a completely different way the F. L. Schmidt building by Palle Svenson is also quite outside the current vernacular of Danish architecture. This is the headquarters of a large cement machine production company and externally it has a remarkable affinity to some of the early brick buildings of Frank Lloyd Wright. A very dark red, narrow brick was specially made for this job and it afforded the trade a wonderful opportunity of displaying its skill. It is possible to stand up against one of the serried ranks of piers and gaze in wonderment at the precise, radiating lines of brick joints, perfectly aligned to the very end recesses of the building. Structurally, the building is a massive fraud, the ostentatious brick piers being backed by an r.c. frame, but for perfection of detail and superb craftsmanship this is a building not to be missed—right down to the entrance hall fittings specially designed by Alvar Aalto.

This name brings me to the most difficult part of the analysis of my impressions received in a month's whirlwind tour of Scandinavia. Had I gone to Finland prior to his Gold Medal year, I think the task of assessing Aalto would have been easier. Until then he was a mystery man to me. I had studied, without much enthusiasm, his oddly personal dormitory block at M.I.T., but I thought perhaps it was the fault of heavy handed American draughtsmen that the delicate, other worldly design had a fish-out-of-water look. I had studied

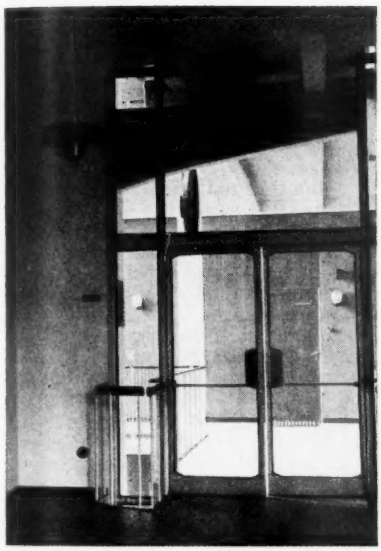
* *In 1957 Grenfell Baines and Hargreaves began an experiment whereby overtime could be taken either by payment in the normal way, or in the form of sponsored study tours following an approved outline programme. Mr. Scott is an associate partner in the firm, and was one of the first to take advantage of this idea. This article is a résumé of his impressions of some of the recent work in Scandinavia, and is illustrated by some of the 450 transparencies which he has added to the firm's library of colour slides.*

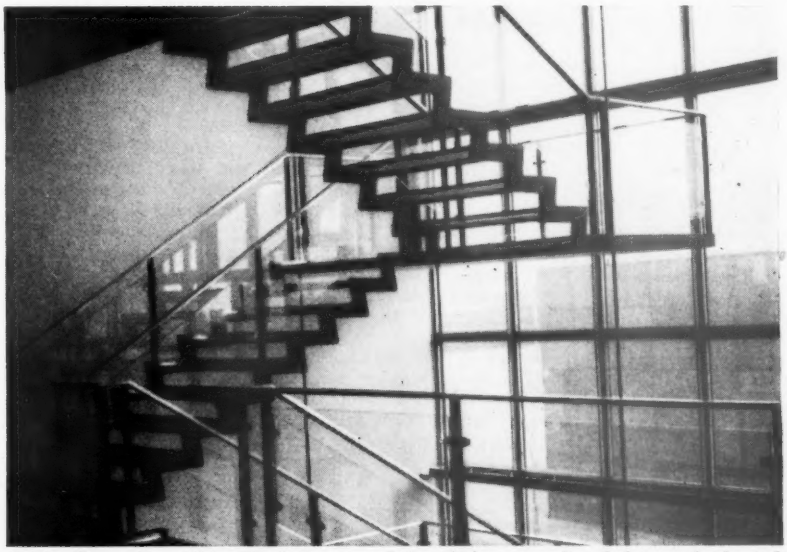
[1] I have a notion that this much-trotted-out criticism of raked joints springs from foremen brickies who know they cannot cover up spelched edges on carelessly handled bricks.





Left: The F. L. Schmidt Building in Copenhagen. The huge brick piers impart a sense of power and strength which contrasts vividly with very light detailing such as that on the fire-escape at the end of the main block. Architect: Palle Svenson, 1955. Right: The entrance hall of F. L. Schmidt Building. The prestressed beams span nearly 70 ft. The bricks were made specially for this job, and the fittings in the entrance are designed by Alvar Aalto.





Left: A detail of the Town Hall at Aarhus, Denmark. Right: The main staircase in the entrance hall of the Town Hall at Rødovre, Denmark. Note the stepped string cut from one continuous piece of mild steel 2 in. thick. The large area of the window necessitated the two horizontal wind bracing trusses. Architect: A. Jacobsen, 1956.

one or two badly written (and translated), thin, expensive books and a few red-filtered photographs—and then came 1957. Came more photographs, typescript, exhibitions, adulation. They all fell thick and fast. Could you blame a prospective visitor for lapping it up in the search for information? (For information about Finland as a country, let alone it's architecture, is the most elusive thing.) For some reason that now quite escapes me I went to Finland believing that the country harboured the greatest architect of our day, that this will be known as the Age of Aalto, that Säynätsalo marks a turning point in 20th-century architecture, etc. Since Säynätsalo comes first to mind let me try quite honestly to record my impressions roughly in order.[1]

Firstly, one of surprise at the very small size of the scheme. (The powerfully cantilevered mass of the council chamber provides a wonderful opportunity for monumental photographic angles!) Secondly, dismay at the surroundings. In this as in nearly all Aalto's works there is little evidence that the designer has given any thought whatsoever to the landscape in the immediate environs of his building. Take for instance the famous photograph of the grass steps to the upper courtyard. Quite apart from the fact that these are now a muddy slope, this imposing stair gives onto the unpaved back yards of a litter of decrepit shacks strewn haphazardly among the trees.

Scrambling up the slope to the courtyard itself I found that its principal feature is a small rectangular pool containing a single jet fountain placed with no unusual aplomb near the glazed wall of the corridor. This glazed wall is beautifully detailed and it seems a pity that large areas of it are completely enveloped in creeper which destroys both its line and form. The floorscape of this courtyard had been described to me as a wonderful essay in pure romanticism. If this is true then it struck an unresponsive chord in me for I was dismayed to find it a weed-strewn, badly paved and cobbled area.

The raised courtyard was formed by earth excavated from the hillside into which the building abuts, but the way in which the hillside has been left after the diggers mauled it make it very difficult to study the back of the building (yes, this

[1] All these impressions came *after* the general feeling of immense relief at having finally arrived, dusty and tired, after traversing some 400 miles of dirt roads. Let no one deceive you, Finland has the worst roads in Western Europe with only 50 miles of them paved, and that mostly between Helsinki and Turku in the south.

building *has* a back, my third impression). Fourthly, I spotted bricks, the mortar gone, in imminent danger of falling from a poorly detailed, ill-protected verge. Somewhat deflated—for after all I *had* come 2,000 miles—I went inside into the cool of the entrance hall and the council chamber.

Internally, it has been well said that the council chamber has a chapel-like atmosphere. I found this atmosphere quite unsuited to the function of the room. Light is filtered in through a too opaque timber-slatted window and the only other light source is the small, much-photographed window masked internally with staggered timber louvres.[1] Without the aid of artificial light it is therefore very difficult to read minutes and write notes on the council benches.

Now I want to say at this point that I am most anxious not to take to myself the mantle of Sir Hugh Casson's critic from his 'Five Types' lecture; it is no part of my intention to belittle Aalto's work, still less to debunk it. What I saw in Finland convinced me that he is a creator of great stature, but I wish to make quite clear my personal reservations. I would add that some of these weaknesses are even better demonstrated at his newly completed teachers' college at Jyväskylä, ten miles from the town hall at Säynätsalo, but I chose the latter building because it has been well illustrated.

Having been so critical, how then has Säynätsalo come to be so widely acclaimed? Simply because, these criticisms apart, the group is a masterly conception. Its creator is capable of visualising a scheme as a finished entity and his genius is manifest in the completely ruthless way in which the solution is driven to its ultimate conclusion. None of the wayside pitfalls (by-laws, clients' whims, economics, real or imagined limitations in materials, etc.) which bedevil the normal architect into watering down his original idea, are allowed to interfere.[2]

As a piece of sculpture the building is a delight to walk in and around. Outside and in, each wall is carefully modelled, there are no corners in the sense that each side produces a separate elevation. If you were to draw an extended elevation of many sections of the building, a stranger would be quite unable to tell where the wall changed direction. Brick and natural wood are the dominant materials for both structure and finish. Plastered walls are relegated to small rooms and the library. No areas of primary colours are used here, or anywhere else in Finland for that matter. However, enough perfectly legitimate praise of this building has been expressed elsewhere, to permit me to pass on to another work by Alvar Aalto.

The National Pensions Building in Helsinki was for me the most impressive major work in Finland. Set on a roughly triangular site, this large building reveals Aalto at his finest. Money was literally no object, detailed figures are not available and I doubt if the architect knows them. The massing is extraordinarily complex but a pervading unity is imparted by the skill with which the blocks are disposed and by the sombre unity of the prevailing colours —deep red bricks and dark, sienna coloured copper.

The imaginative use of copper as a decorative cladding material is one of the most notable aspects of the elevations. I was told that lead is rare and never used as a flashing material in Finland, so aluminium or copper are the normal alternatives. The service tower and its auxiliaries are entirely clad in striated copper sheet and great ingenuity of detail is to be seen at door and window openings. Striated copper sheet is again used to cover the narrow, solid opening lights—an interesting innovation, even though one may have reservations about the aesthetic validity of divorcing the amenities of light and air.[1]

More convincingly than Säynätsalo, this building has no rear elevation; indeed only the south façade may be said to *have* an elevation, so intricately are the masses interlocked and compounded. From the south you see one of the many interesting features of the building, for, towering above a second-floor roof, can be seen four steeply sloped glass roof lights which admit light into a two-storey inquiry hall. The unusual feature of these tent-like structures is that from inside you can see another roof light—lower, of flatter pitch and also transparently glazed.

One is led to wonder about the reason for this expensive—even wasteful—gimmick, unless it is to explore the modern equivalent of Wren's solution for making a dome visually satisfactory both inside and out. If so, it is at least a partial success; successful in that the internal and external proportions are correctly adjusted, and disturbing in that from inside one cannot help but be worried by the sight of the outer light and by the mental image of a man crawling around between the glass surfaces, trying to clean them and service the electric lights which are fixed in the space.

The entrance to the building is cunningly contrived. Massive, sombre, copper-clad, unglazed doors (we seem to assume a right to look into the entrance of a public building in England) give access into a low-ceilinged foyer with inquiry desk and cloak rooms. Beyond this, space is released into the comparatively vast inquiry hall which is divided into wonderfully intricate booths about 5 ft. 6 in. high and containing some of the best craftsmanship in timber to be seen in Finland.

Superlative craftsmanship is indeed the keynote of this building. Everywhere the results of the careful, loving attention of an acutely sensitive mind are to be seen; light fittings, furniture, wall tiles, curtains —they are all specials. Aalto appears to be master of the many moods required in a complex building of this nature. Quiet, cool efficiency in the inquiry hall and offices; studious, sombre, restfulness in the library, clothed in dark olive-green upholstery to contrast with the deep red-brown of the mahogany woodwork; light, airy gaiety in the restaurant—reached by an underground passage and approached up a stairway lined with Aalto's vertically modelled, pale blue ceramic wall tile. To sum up; a luxurious essay in fine building, carefully avoiding the pitfall of vulgarity and the petty excesses which too often mar a job with an unlimited budget.

Similarly luxurious is the newly completed Communist Culture Centre in Helsinki. The massing of this group of buildings is not nearly so successful as the Pensions Building. A beautifully detailed, copper clad office block is joined to the assembly hall via an unconvincing, single storey link. The hall has a most unusual plan, consisting of bold, compound curves which produce an undulating, stark exterior, devoid of fenestration and notable for the specially designed curved hollow bricks laid without bond and with thick, flush joints.

The building was not complete when I visited Finland and I found it hard to find the entrance. Perhaps this has been remedied by the design of the finished canopy, but even so the main concourse, tucked under the hall, seemed rather low and mean in vertical scale and it will certainly have to rely on artificial light for illumination. The auditorium itself, however, is very satisfying. Though still unfinished I felt that it would have a quiet, restful luxury, affording excellent acoustic and visual opportunities for appreciating any type of stage performance. The complex, flowing shapes are well handled and I liked the decorative, abstract patterns formed by large areas of acoustic tiles applied to the side walls.

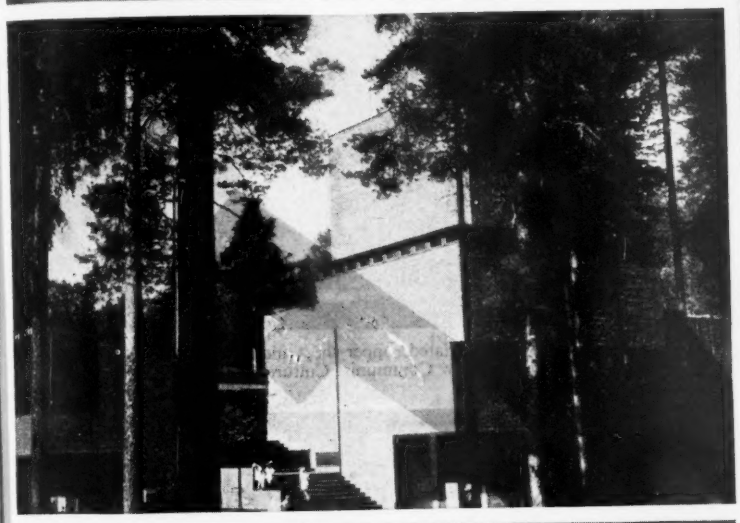
When designing on a shoestring, Aalto is on much shakier ground. Here, to my mind, he reveals another weakness. Still the brilliant concept, still the same ruthless desire to carry it through. But it is as if the building is started in a haze of wishful thinking: maybe the money will last out after all. And when the kitty is empty the building is simply finished at that point, with a naïvety which would be laughable if the result did not do such a disservice to the client, the architect and to the profession generally.

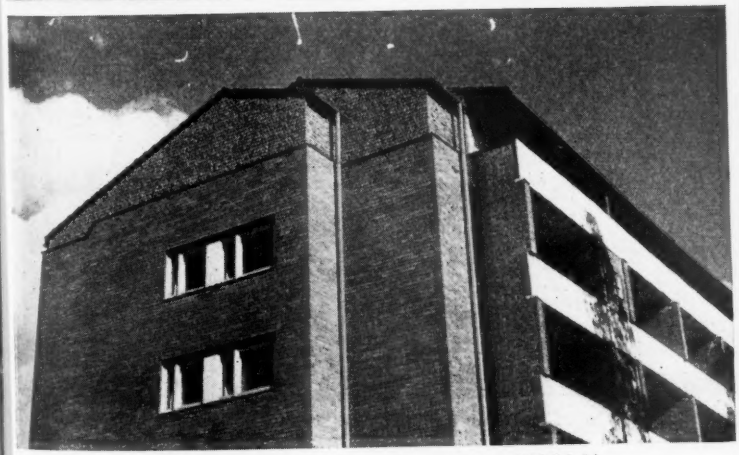
I am not exaggerating. Take for instance the famous gymnasium at Otaniemi. When satiated with admiration for the bold poetic wood trusses spanning the vast sweep of the indoor sports field, look around at the finishes. The rough, screeded floors, the softwood doors with cheap ironmongery, the inferior frosted glass to the windows, the crude external cladding left unfinished and already showing signs of falling apart; sanitary ware of the cheapest kind. Dare I venture to suggest that a stiff dose of cost analysis would have

[1] I am convinced that the photographs of this window which I have seen, showing light radiating from behind these louvres were taken with the aid of a floodlight secreted behind the louvres. I visited the building on a radiantly sunny day and got nothing of this effect.

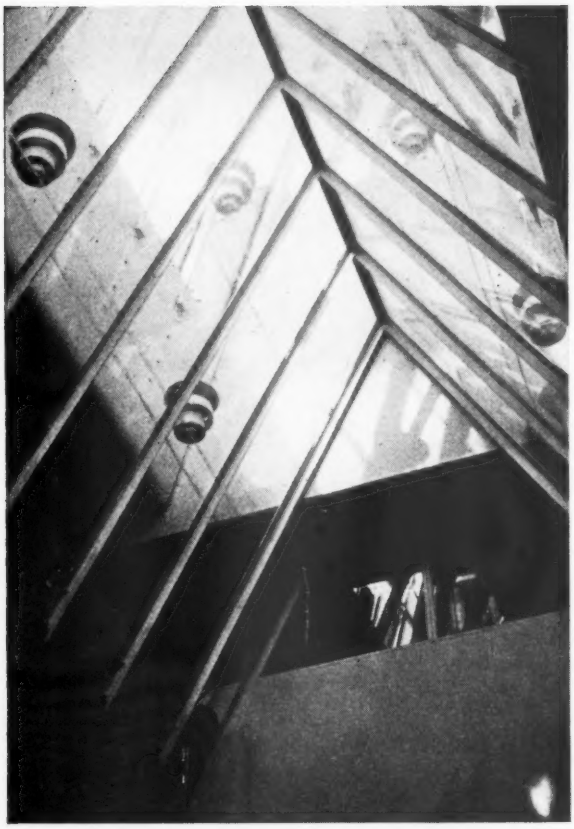
[2] This ruthless quality is common to all great architects and their work, e.g. Le Corbusier at Marseilles, Saarinen at M.I.T., Mies at Lake Shore, Frank Lloyd Wright at Johnson Wax.

[1] Le Corbusier, of course, has also used this technique at Maison Joule, though much more boldly and disturbingly.





Top left: Flats in Tapiola, a new town on the outskirts of Helsinki, designed by A. Blomstedt, 1954. Top right: The National Pensions Building in Helsinki (A. Aalto, 1955), showing two of the four roof lights, the copper clad service towers, and the main administrative wing on the left. Note how the striations in the copper are not deep enough to prevent unsightly buckling under the stress of temperature changes. Centre left: The Town Hall, Säynätsalo. The council chamber with shops under is on the right and the library is over ground floor shops on the left of the main stairs to the inner courtyard. Bottom left: Flats for workers in the National Pensions Building. Bottom right: The Accounts Hall, National Pensions Building.



The double-glazed roof lights in the Accounts Hall, National Pensions Building, Helsinki.

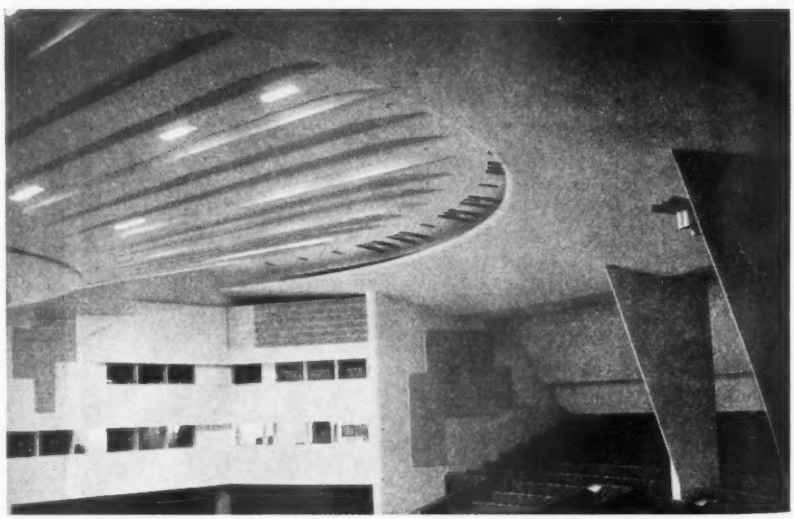
A detail of the striated copper sheet and special hollow bricks designed for use on the new Communist Culture Centre, Helsinki.

enabled the architect to make a far more creditable building of this gymnasium, rather than the huge, badly finished shed which now seems to cower into the surrounding forest?

Nevertheless, I would be loathe to leave his work on a sour note. The stature of Aalto rightly dominates the Finnish architectural scene and though space does not permit me to discuss many of the buildings I visited I would like to mention the sanatorium at Paimio.

Built in 1929 this hospital, even today, is a giant among modern buildings. Its maturity and assurance is quite overwhelming when one considers its date. There is scarcely a hint of decay; the stuccoed face is intact and has required a minimum of maintenance; the robust internal fittings are virtually unmarked. The brilliantly lit corridors and rooms immediately give courage and hope to the patients—hope which is charmingly expressed each day by flying a flag from the balcony of the floor from which a cured patient has been discharged.

And what of the younger men? Considerable prominence was given to their work last year and, indeed, the standard is high. Sirén, Blomstedt, Rewell and Ervi stand out in the memory (particularly for their contribution to the new town of Tapiola); but as I sailed back from this strange, almost eerie land it was to the strong, virile, highly personal work of one of the undoubted masters of our time that my mind constantly turned, and time and again I recalled his own phrase expressed at the R.I.B.A. last year, 'There are only two things in art: humanity or not'.



The interior of the main hall, Communist Culture Centre

Royal Commission on Local Government in Greater London

Evidence by the Royal Institute of British Architects

Terms of Reference

'To examine the present system and working of local government in the Greater London area; to recommend whether any, and if so what, changes in the local government structure and the distribution of local authority functions in the area, or in any part of it, would better secure effective and convenient local government; and to regard, for these purposes, local government as not including the administration of police, or of water, and the Greater London area as comprising the Metropolitan Police District together with the City of London, the Boroughs of Dartford, Romford, and Watford, the Urban Districts of Caterham and Warlingham, Chorley Wood, Hornchurch, Rickmansworth, and Walton and Weybridge, and the Parish of Watford Rural in the Watford Rural District.'

Evidence by R.I.B.A.

1. In submitting evidence to the Royal Commission, the main concern of the Royal Institute of British Architects must be for the furtherance of good planning and architecture in the Greater London area and for the effective and economical administration of planning and of by-law control. Clearly, good architecture and environment in any locality can be evidence of the excellence of the structure of its local government, as well as a vital contribution to the well-being of its inhabitants. It is hoped, therefore, that the proposals put forward here, with the emphasis clearly on matters of planning, architecture, and building control, will contribute towards the simplification and improvement of all aspects of local government administration in Greater London, a matter which must be the concern of any professional organisation.

2. Since the Local Government Act, 1888, brought into being the London County Council whose boundaries at that time roughly coincided with the extent of the built-up area of London, there has been such an extensive spread of the capital city into the Home Counties that the existing administrative boundaries of the County, and of other authorities within the built-up area and beyond, no longer relate to the reality of the situation. Within Greater London, as defined in the Royal Commission's terms of reference, there are six county councils, three county boroughs, 73 district councils, the London County Council, City Corporation and the 28 Metropolitan Boroughs.

3. In planning, the county councils are responsible for the preparation of development plans, but their powers of control of development have been delegated in varying degrees to the constituent district councils. In the London County Council area, except, however, in respect of the City Corporation, this delegation has hitherto been prevented by the Town and Country Planning Act, 1947, although, should it receive Royal assent, the L.C.C. (General Powers) Bill will permit a degree of delegation in respect of minor planning matters to the Metropolitan Borough Councils. As the county boroughs of East and West Ham and Croydon are all-purpose authorities this division of responsibility for development plan and for development control does not occur there.

4. As regards the regional aspect of planning the Ministry of Housing and Local Government is in a position to prepare a plan and secure its implementation. Over a long period regional planning for the Greater London area has been a matter of concern both to individual architects and to the profession as a whole as represented by the R.I.B.A. When in 1927 the Greater London Regional Planning Committee was set up—a Committee which performed a valuable service in defining, and advising on considerable purchases of land for London's Green Belt—an architect, Sir Banister Fletcher, was appointed its Chairman. During the war, members of the Institute worked voluntarily on the preparation of a regional plan for Greater London; in 1944 the then Ministry of Town and Country Planning commissioned the late Sir Patrick Abercrombie [*F*] to prepare the Greater London plan.

5. Since the publication of the Abercrombie regional plan, attempts have been made to secure administrative arrangements to ensure continuity of thought and action at regional level. The Clement Davies Committee were asked to advise the Minister on 'the appropriate machinery for securing concerted action in the implementation of a Regional Plan for London as a whole', and in 1949 they recommended the establishment under the 1947 Act of a regional joint advisory committee under an independent chairman. At the same time the minority report of the Committee recommended the establishment of a Joint Board of the constituent planning authorities in Greater London for regional planning with more executive power than an advisory committee. The Committee also recommended that a Royal Commission should be set up to examine local government in the Greater London area. No action was taken on either of the former recommendations, but the Royal Commission has now been appointed.

6. Meanwhile, the Ministry of Housing and Local Government has continued to be responsible for regional questions. The Minister, however, being in the position of arbitrator on town planning matters, is not able to sponsor a continuing regional plan, and so the various aspects of planning in London have tended to become split up between various Ministries and *ad hoc* organisations. For instance, the Ministry of Transport is the only body responsible for the road plan in the region; the Board of Trade has the responsibility for the industrial location policy; and other bodies, such as the Metropolitan Water Board and the London Transport Commission, all deal with their separate aspects without a common meeting point which would enable them to merge their contributions into a single co-ordinated plan.

7. As regards architecture, standards of design have varied with the authority, but experience has shown clearly that large authorities such as the London County Council are in a much better position to command the services of first-rate architects and planners. For most types of buildings the London County Council has made an outstanding contribution to a new London; in addition the Home Counties have been able to make an equally valuable contribution especially in educational buildings. All these authorities have adequately staffed architectural and planning departments. At county borough level, however, only one of the three county boroughs in the London region has an architectural and planning department, and amongst the smaller authorities, the borough councils and the district councils, only a small proportion have architectural departments. Many only employ architectural assistants serving in the borough engineer's department. To a large extent this has meant that

the quality of work done by these authorities often falls short of what is possible and desirable.

8. In any reorganisation of local government in the London region, the R.I.B.A. is concerned to see that the administrative arrangements should permit a high standard of architecture to be attained consistently over the whole of that area, while securing the establishment of two levels in planning and in the control of the construction of buildings on the following lines:

(i) Regional, covering the whole of Greater London and including, in respect of planning, such aspects of roads, railways, port facilities, transport, overspill, industrial location and other matters, all of which can be described as strategic to London, plus overall control of the construction of buildings, aimed to achieve a common standard throughout the built-up area.

(ii) Local, where, in respect of planning, the main task is the implementation of detailed plans within the framework already laid down at regional level. Here architectural planning aspects involving questions of civic design are of first importance and competent architectural and technical staff are required to design three-dimensional layouts and buildings, at the same time conducting day-to-day administration of building regulations.

9. In the event of a wholesale reorganisation of local government in Greater London the R.I.B.A. considers that at regional level there should be an elected Greater London Council which would be responsible for all major local government of the kind described above. The Greater London Council would have responsibility for preparing and keeping under review a broad regional plan, reporting on progress and, if necessary, securing the implementation of the plan by providing financial assistance to areas where the need for reconstruction was greatest. It would also have responsibility for securing a consistency in the decentralisation and location of industry and the movement of populations to new and expanded towns. In addition appropriate relationships would be established with the existing large public development authorities, such as the Port of London Authority, London Transport and so on. The Greater London Council should also be empowered to make all building control regulations for the area and be responsible for overall control of their administration, both as to the hearing of appeals and as to relaxations. This would constitute the regional policy level of local government.

10. At the local level it is considered that the region should be divided into a series of city districts which would be most-purpose authorities with elected councils having responsibility for local government functions including town planning, education, housing and slum clearance and the day-to-day administration of building regulations. They would require to be of such a size and have command of sufficient rateable value to enable them to employ the right calibre of staff. This would mean they would have to be very much larger than the existing Metropolitan Boroughs within the London County Council area or the district councils in the Home Counties.

11. In this way the present confusion of authorities would be replaced by a simpler and more rational structure of local government. Regional planning policy would be determined by a democratically elected body and local planning in the city districts would be sensitive to local opinion. The R.I.B.A. is mainly concerned with the principles underlying such a reorganisation of local government to secure the highest standards of architecture and planning from the point of view both of efficiency and appearance, but considers that if these principles are accepted it would be possible to work out a division of Greater London into city districts which would bear a close relationship with existing community structures.

12. The Institute strongly maintains that these proposals must be considered together, to be accepted or rejected as a whole. Reorganisation of planning and administration in the Greater London area into regional and local units would be unacceptable unless those authorities, assuming responsibility at the local level, were of adequate size—able, in the case of planning and architectural matters, for instance, to employ first class architects and planners, as is at present the case with the London County Council.

As already mentioned, existing Metropolitan Boroughs and district councils in the Home Counties would not be large enough to employ the qualified staff needed to carry out ably the functions of planning at the proposed local level.

13. The R.I.B.A. has been interested to note that the boundary for Greater London, as defined in the terms of reference of the Royal Commission, appears to run approximately through the centre of the Green Belt. Although the regional authority, here proposed, could come into operation over the area of Greater London as so defined, it nevertheless seems only right to suggest that if the case for a regional authority for the area can be thought acceptable, there may well be reason to consider Greater London as that area which includes the New Towns, covered by the Greater London Plan drawn up by Sir Patrick Abercrombie.

14. If these proposals for a major reorganisation cannot be considered acceptable by the Royal Commission, the R.I.B.A. considers that a super-imposition on the existing local government structure in Greater London of a further *ad hoc* body to deal with regional problems would probably only confuse still further the local government administrative arrangements, adding yet another tier of responsibility. Already there is an undesirable overlapping of functions between authorities, and an *ad hoc* regional body, which might not be democratically elected, would not carry the necessary authority. Rather than this the R.I.B.A. would prefer to see the Ministry of Housing and Local Government once again assume initiating and co-ordinating powers for dealing with problems of the region as a whole. Even then it considers that this would not be wholly acceptable unless proposals on the lines put forward by the Barlow Commission were adopted, namely that a Committee of Ministers composed of Heads of Departments with powers for planning and development be formed having available to it a planning secretariat. This would bring together the various aspects of planning which are at the moment dealt with separately in the various departments.

15. The R.I.B.A. most strongly deprecates all moves which may reduce the efficiency of the London County Council by delegation of powers to the existing Metropolitan Borough Councils. The L.C.C. is outstanding for the contribution it has made in architecture and planning since its formation, and in building by-laws has achieved a uniformity of administrative treatment which should, at all costs, be maintained, indeed extended to the whole of the Greater London area. If, therefore, the proposal for the enlargement of the area over which a single Greater London Council can secure co-ordination is not acceptable, it is considered essential that the L.C.C. which at least covers a large part of the built-up area of London, should retain its planning, development and co-ordinating powers. Otherwise a confusing series of variations in the interpretation of planning and building standards is bound to develop, undermining standards which have been patiently built up over the last 60 years. Likewise, to carry out the work which any delegation of responsibility for planning and architecture would entail, the existing Metropolitan Borough Councils or district councils, with their limited financial resources, would be unable to employ the calibre of architectural and planning staff which the L.C.C. already commands.

It appears to the R.I.B.A. that there is a strong possibility that all the existing larger authorities in the Greater London area will press for the retention of their existing powers, while the smaller ones will ask for delegation or further delegation of powers from these larger ones. To take these demands as a starting point for the establishment of an appropriate Local Government structure in Greater London would, it is felt, lead to a worsening of the present situation. Either the Royal Commission should consider complete reorganisation as described, or else accept the *status quo* as preferable to further disintegration of the larger authorities, particularly the L.C.C. by the delegation of their powers to the smaller ones.

R.I.B.A. Representation on Other Bodies

IN ADDITION to the work done voluntarily by members who serve on the R.I.B.A. Committees and Sub-Committees, it may not generally be realised that the R.I.B.A. is represented on a great many other outside bodies whose activities may to a greater or lesser degree concern the Royal Institute.

The Institute is or was represented on the following 87 bodies:—

Appointments with no Limit set to Term of Office

1. *Ancient Monuments Advisory Committee for Northern Ireland* (1).
2. *British Building Documentation Committee* (1).
3. *British Productivity Council: London Building Productivity Committee* (2).
4. *British School of Archaeology at Athens: Managing Committee* (1).
5. *British Wood Preserving Association: Executive Committee* (1).
6. *Central Council of Civic Societies* (1).
7. *Central Panels Committee* (5).
8. *Civic Trust: Technical Advisory Committee* (4) *and Executive Sub-Committee* (2).
9. *College of Advanced Technology, Cardiff: Governing Body* (1).
10. *Concrete Technology: Exploratory Committee* (1).
11. *Consultative Committee for the Stone Industry* (1).
12. *Council for the Preservation of Rural England* (2).
13. *Council for Visual Education* (2).
14. *Croydon Technical College: Building Advisory Committee* (1).
15. *Forest Products Research Laboratory: Committees on Grading of Home-Grown Softwoods* (1) *and Hardwoods* (1).
16. *Friends of the City Churches: Council* (1).
17. *General Certificate of Education: Joint Examination Board (Ninth Examining Body)* (1).
18. *Hertfordshire Society* (1).
19. *Institution of Water Engineers: Research Group on Internal Plumbing* (2).
20. *International Federation for Housing and Town Planning* (5).
21. *Joint Committee on Materials and their Testing* (1).
22. *Law Society: Joint Committee on Lecture Fees* (1).
23. *London Building Acts Advisory Committee* (1).
24. *London Society: Council* (1).
25. *Midland Regional Board for Industry: Advisory Committee on Research into Factory Building and Operating Problems* (1).
26. *Ministry of Education: National Advisory Committee on Art Examinations* (1).
27. *Ministry of Education: National Certificates and Diplomas in Building* (2).
28. *Museums Association: Standing Joint Committee on Museum Design* (2).
29. *National Buildings Record* (1).
30. *National Council of Women of Great Britain: Housing Sectional Committee* (1).
31. *National Housing and Town Planning Council: Technical Committee: Honorary Adviser* (1).
32. *National Inspection Council for Electrical Installation Contracting* (2).
33. *National Playing Fields Association: Council* (1) *and Grounds and Layout Committee* (1).
34. *National Society for Clean Air* (1).
35. *National Trust* (1).
36. *North Western Regional Advisory Council for Further Education: Joint Advisory Committee for Education in the Building Industry* (1).
37. *Parliamentary and Scientific Committee* (2).
38. *Public Works and Municipal Services Congress: Council* (1) *and Executive Committee* (1).
39. *South-East Essex Technical College: Architectural Advisory Committee* (1).
40. *Town Planning Joint Examination Board* (2).
41. *Women's Advisory Council on Solid Fuel* (1).
42. *Yorkshire Educational Association for the Building Industry: County Advisory Committee on Building* (1).

Appointments with Fixed Term of Office

1. *Advisory Council on Building Research and Development: Ministry of Works* (3).
2. *Ancient Monuments Board for England* (1).
3. *Birmingham College of Technology: Building and Civil Engineering Advisory Committee* (1).
4. *Board of Building Education: Institute of Builders* (1).
5. *University of Bristol: Court* (1).
6. *British School at Rome: Council* (2).
7. *British Standards Institution: Building Divisional Council* (1).
8. *British Waterworks Association: Standing Committee on Water Regulations* (2).
9. *Brixton School of Building: Governing Body* (1).
10. *Building and Civil Engineering Regional Joint Committees: Ministry of Works* (11).
11. *Building Apprenticeship and Training Council: Ministry of Works* (1).
12. *Camberwell School of Arts and Crafts: Governing Body* (1).
13. *Darlington College of Further Education: Board of Governors* (1).
14. *District Surveyors Examination Board* (4).
15. *East Ham School of Building: Advisory Committee* (1).
16. *Elmes Testimonial Fund: Foundation Trustees* (1).
17. *Epsom and Ewell School of Art: Governing Body* (1).
18. *University of Exeter: Court of Governors* (1).
19. *Hammersmith School of Building and Arts and Crafts: Governing Body* (1).
20. *University of Hull: Court of Governors* (1).
21. *Ipswich Civic College: Council for Art* (1) *and Council for Building* (1).
22. *Kingston upon Thames School of Art: Governing Body* (1).
23. *L.C.C. Technical College for Furnishing Trades: Governing Body* (1).
24. *Leverhulme Scholarship Committee: Architectural Association* (1).
25. *University of Liverpool: Court* (1).
26. *London Building Acts: Tribunal of Appeal* (1).
27. *University of London: Architectural Education Committee* (2).
28. *Federation of Malaya: Architects' Ordinance* 1951 (1).
29. *National Consultative Council of the Building and Civil Engineering Industries: Ministry of Works* (2).
30. *National Householders Registration Council* (3).
31. *University of Nottingham: Court of Governors* (1).
32. *Plumbing Trades National Apprenticeship Council* (1).
33. *Professional Classes Aid Council* (1).
34. *Regional Advisory Council for Higher Technological Education, London and Home Counties: Regional Advisory Committee for Building* (1).
35. *Rotherham Technical College: Building Advisory Committee* (1).
36. *Sanitary Inspectors Examination Joint Board* (1).
37. *University of Sheffield: Court* (1).
38. *South West Essex Technical College: Building Advisory Committee* (1).
39. *Southend-on-Sea Municipal College: Architecture, Surveying and Building Advisory Committee* (1).
40. *Southern Regional Council for Further Education: Advisory Council for Civil Engineering and Building* (1).
41. *University of Wales: Faculty of Architecture* (1).
42. *West Midlands Advisory Council for Technical, Commercial and Art Education: Advisory Committee for Art and Industrial Design* (1).
43. *West Midlands Advisory Council for Technical, Commercial and Art Education: Advisory Committee for the Building Industry* (1).
44. *Wimbledon School of Art: Governing Body* (1).
45. *Wolverhampton Technical College: Building Advisory Committee* (2).

(*Note:* the numerals in brackets indicate the number of R.I.B.A. representatives.)

In reply to a letter sent out in January 1958 by the Executive Committee to R.I.B.A. representatives on this list (all except nos. 7, 8, 12, 20, 23, 32, 35 in the first list and nos. 1, 3, 4, 6, 7, 10, 11, 24, 26, 27, 28, 29, 30 in the second list were circularized) it was ascertained that of the 87, the member or members on eight of them considered it not necessary for the Royal Institute to continue to be represented.

Space is not available to describe in any

detail the functions of all these bodies, but a few brief notes are appended which it is hoped will give some idea of the role played by the R.I.B.A. representatives on a number of them. (These notes are based on replies received to the circular letter.)

The picture would not be complete if it were not recognised that for much of the time these architects have to sit listening while matters of little concern to them are being discussed, in order to take part when points concerning the profession crop up.

The membership is greatly indebted to their colleagues who serve on these outside bodies and it is hoped that this brief and unexciting article will make them more aware of the nature of this representation, which in the aggregate is helping to promote the interests of the profession of architecture in the outside world.

Ancient Monuments Advisory Committee for Northern Ireland. The R.I.B.A. representative reported that points of particular interest to the profession are constantly before the A.M.A.C. There are the matters concerning the Georgian buildings in Ulster, in which his interest is continuously engaged.

In the case of the more ancient monuments, the R.I.B.A. representative's special knowledge is constantly sought, especially on problems of structural condition and maintenance repairs.

There is also a growing link-up, in which the R.I.B.A. representative has had and is having a considerable part, between the Ministry of Finance (the Ancient Monuments Authority) and its advisory body (the A.M.A.C.) and other Ministries, local authorities and others towards the end that whilst the interests of the ancient monuments are reasonably safeguarded, the legitimate requirements in respect of current architecture and town and country planning are not unfairly hampered.

It may be worthy of note that in all the many instances where the R.I.B.A. representative has been asked by the A.M.A.C. to deal with a special problem, he cannot remember any instance where his report has not been agreed to by the A.M.A.C., recommended to the Ministry of Finance, and implemented by that Ministry.

British Productivity Council: London Building Productivity Committee. The Committee discusses all ways of improving productivity in the building industry, including contributions to productivity which can be made by architects. Among other things the Committee has arranged for preliminary reports to be made by a firm of industrial consultants on the efficient working of an architect's and quantity surveyor's office.

The R.I.B.A. was represented at the Sundridge Park Conference organised by the Committee.

Almost every matter discussed by the Committee has some reference (even if rather oblique) to the profession. The R.I.B.A. representatives find themselves sometimes in the position of defending the profession, as well as putting the architect's point of view.

British Wood Preserving Association: Executive Committee. Particular points of interest to the architectural profession discussed were all aspects of wood preservation, including precautionary treatment and remedial treatment in respect of attack by fungi or by beetle. The treatment of timber as regards fire was also dealt with.

College of Advanced Technology, Cardiff: Governing Body. At the Governing Body and Finance Committee occasions have arisen from time to time to watch the interest of the School of Architecture. For example, to see that it retains its identity as the Welsh School of Architecture and not merely named as a Department of the College.

Consultative Committee for the Stone Industry. Although there are few meetings, the R.I.B.A. representative considers that architects should be represented; it is in the stone industry's interests to have the advice and experience of a member of a profession which can affect their activities so greatly.

Council for Visual Education. The work of this Council is of general interest to the architectural profession in that it seeks to interest the students and teachers in schools in observing their surroundings, increasing the appreciation of good town planning and architecture.

Forest Products Research Laboratory: Committees on Grading of Home-Grown Softwoods and Hardwoods. The Softwoods Committee finished its work in 1955.

The R.I.B.A. representative considers that the work of the Hardwoods Committee is of particular interest to the profession because home-grown timbers, properly graded and seasoned, are equivalent to the imported species.

Institution of Water Engineers: Research Group on Internal Plumbing. The Group is concerned with the investigating and promoting of research along lines which do not appear to be fully explored by other bodies. A considerable amount of the work is of no direct interest to the architectural profession. Nevertheless, a number of topics have arisen in which the profession was directly concerned and the views of the R.I.B.A. representatives have had considerable effect in shaping reports and recommendations.

Subjects covered during the year have included noise in internal plumbing, anti-corrosion methods, new types of piping including plastic, frost precautions, etc.

London Society: Council. The aim of the Society is to stimulate a wider concern for the beauty of London, for the preservation of its charms and the careful consideration of its developments. The R.I.B.A. is represented by the Chairman of the Council of the London Society, Lord Mottistone [*F*].

Museums Association: Standing Joint Committee on Museum Design. As the Committee deals with museum design, practically all the matters discussed had some architectural interest. Plans for proposed buildings were examined and comments made, new suggestions for lighting of galleries were considered, etc., and considerable follow-up of discussions has been made by way of correspondence with museum directors, etc.

National Council of Women of Great Britain: Housing Sectional Committee. The R.I.B.A. representative reports that points of particular architectural interest discussed were (*a*) the accommodation for single women, their special requirements, and the promotion of schemes for housing by voluntary organisations, etc.; (*b*) the Repairs and Rents Act, reports on the working of the Act and the use of large houses for conversion into flats; and (*c*) the possible demolition of the Nash Terraces.

Parliamentary and Scientific Committee. Since the activities and influence of this Committee are widespread and are increasing, it is difficult to pin-point briefly items of interest to the profession because they are various and not necessarily immediately apparent. There are not only business meetings of the Committee at the House of Commons, but also papers on nationally important subjects of scientific interest are delivered by authoritative speakers and the R.I.B.A. representatives have occasionally taken part in the discussion which follows.

In addition to the meetings, official visits of groups of Committee members are also arranged to various research centres, both Government and privately owned. The R.I.B.A. representatives joined in visits which had any particular architectural or building interest. Such visits occupy the greater part of the day and the informal exchange of views and discussion on what the laboratories and works visited are doing are most valuable both to the hosts and the various interests represented by the Committee.

Public Works and Municipal Services Congress: Executive Committee. This body is concerned primarily with engineering and it provides considerable publicity for the activities of the municipal engineer. The Executive of the City and Borough Architects' Society therefore regard it as important that the architectural profession should be represented. R.I.B.A. representatives have given and are giving a number of papers which have made a useful contribution to the interests of the profession.

Town Planning Joint Examination Board. The title of the Examination Board describes its function and it is concerned with the whole machinery for preparing examinations for the Town Planning Institute. The normal agenda covers financial matters, consideration of examiners, papers and results.

Ancient Monuments Board for England. The A.M.B. deals with all historical monuments maintained by the Crown. The R.I.B.A. representative reports that a good deal of time is spent discussing prehistoric remains about which, of course, he cannot pretend to be an authority. But at nearly every meeting there has been long discussion on topics of architectural interest, for example the methods of repair and preservation of Hadrian's Wall, the Tower of London, and Corfe Castle, and the desirability of listing and perhaps acquiring control of typical early industrial buildings and their equipment (e.g. the first coal and tin mines, early factory buildings, windmills and water-mills)—this is a new departure.

British Waterworks Association: Standing Committee on Water Regulations. The functions of this Committee can be summarised briefly as follows: (1) the testing of all types of water fittings and apparatus; (2) by-laws relating to the materials and the manufacture of such fittings and apparatus; and (3) by-laws relating to waste, misuse and contamination of water.

There can be no question that 95 per cent of the Committee's time is taken up with the passing, or otherwise, of fittings or apparatus, and such work is very rarely of direct concern to the profession. The by-laws on which the manufacture of such fittings is based and under which their installation is permitted, have, over the years, become fairly well established and alteration is infrequent.

Nevertheless, when such alterations are proposed, they may be, and indeed usually are, of very direct concern to the architectural profession. The increased use of plastics in fittings and especially in parts of fittings is causing considerable concern at the present moment, and is likely over the next few years to involve very considerable modification to parts of the by-laws. It is likely that the architectural profession may have considerable interest in this aspect.

Darlington College of Further Education: Board of Governors. The Building Advisory Committee of which the R.I.B.A. representative is Chairman, has discussed various problems relating to the training of craftsmen and supervisors in all branches of the industry.

A new College of Further Education has been approved by the Ministry of Education and the first phase of this, comprising engineering and building workshops, was opened in 1957.

The major portion of the scheme will be built during the next few years and as matters pertaining to it will play a considerable part in the Governors' meetings, R.I.B.A. representation will be valuable.

District Surveyors Examination Board. A great many matters of professional interest are discussed at the meetings. The architect practising in London has a great deal to do with district surveyors and this Board gives a valuable opportunity for the interchange of views both in relation to the duties of the district surveyor and the relationship of the associated professions of the architect, surveyor, engineer, etc.

The aspect upon which one of the R.I.B.A. representatives is particularly concerned is the part of building design in the experience and knowledge of a competent district surveyor.

East Ham School of Building: Advisory Committee. The R.I.B.A. representative reported on a proposal to establish a College of Advanced Building Technology, following a report of a Study Group appointed by the Building Advisory Committee of the Regional Advisory Council. Such a College might contain schools of architecture and other professions which, it is suggested, would seek recognition by the appropriate bodies. The Committee were in agreement in principle to the establishing of such a College, and made a suggestion that, if possible, it should be sited near the Building Research Station at Garston rather than in Central London as was originally proposed. The Education Committee later adopted this suggestion.

Epsom and Ewell School of Art: Governing Body. The R.I.B.A. representative mentions the following points of interest to the profession: The whole question of adequate training for applied arts, particularly those closely allied to architecture, and the appreciation of this by sculptors, mural painters, etc. Also discussed were various methods of publicising courses of training, for example, the need for apprenticeship schemes for painting and decorating.

University of Exeter: Court of Governors. The question of new buildings for the University was before the Court on each occasion and plans were available for inspection.

L.C.C. Technical College for Furnishing Trades: Governing Body. The R.I.B.A representative considers that the technical and design training of men who will be employed in management in the furniture and allied trades is a matter of interest to the profession.

Plumbing Trades National Apprenticeship Council. The points discussed at the meetings were all concerned with apprenticeship matters connected with the plumbing industry and in particular with the preparation of a new Apprenticeship Deed. It would be difficult to suggest that any of these points are of special interest to the architectural profession beyond saying that it is obviously in the interest of the profession to have a reasonable number of adequately trained apprentices coming forward.

University of Sheffield: Court. The agenda included reference to the large building development programme of the University which is now under way.

Practice Notes

Edited by Charles Woodward [*A*]

IN PARLIAMENT. Thermal Insulation—Thermal Insulation (Dwellings) Bill. The Minister of Housing and Local Government was asked to state the outcome of his discussions with local authority organisations with regard to the proposals in the Thermal Insulation (Dwellings) Bill, and whether he was yet in a position to make a detailed statement of Government policy with regard to the matter.

Mr. Bevins stated that while there was general agreement that the aims of greater fuel economy in domestic heating and warmer houses should be actively pursued, the local authority associations thought that thermal insulation could not satisfactorily be divorced from other aspects of housebuilding and ought not to be made the subject of separate regulations. He added that the Government shared this view. Mr. Bevins recalled that the insulation of houses was in fact already dealt with in building by-laws made under the Public Health Act, 1936. The Minister of Housing, who had been in close touch with the Ministers of Power and of Works, now proposed again to consult local authority and professional associations on the question whether the standards adopted in the by-laws should not be raised. If it appeared that the standards should be raised, he would ask local authorities to strengthen their by-laws on this point straight away. Mr. Bevins added that the further discussions with the local authorities would start almost at once and, if they were in agreement that the standards of the by-laws ought to be raised, his Ministry would take the necessary action to that effect. (10 June 1958.)

Constructional Contracts. Sir A. Bossom asked the Minister of Works if he will require that all constructional contracts passed through his Department shall in future have included as one of the contract documents a properly prepared and officially approved time and progress schedule in an endeavour to put an end to the delays not uncommon today in Government construction work.

Mr. Molson: In all substantial constructional contracts my Department already stipulates in the contract documents that the contractor shall produce, in agreement with the superintending officer, within four weeks of the placing of the contract, a programme chart of the whole of the works. This procedure, combined with the full planning now adopted in pursuance of the fixed price tender policy, is effective in eliminating avoidable delays. (24 July 1958.)

Constructional Work (Modular Co-ordination). Sir A. Bossom asked the Secretary of State for War if he will consider requiring in future that all constructional work to be executed for his Department

shall be drawn on a dimensionally modular co-ordinated plan as is now required for the War Department of the United States of America, to enable it to be carried out more quickly, cheaply and easily.

Mr. Soames: A War Office architect is a member of the committee of the British Standards Institution which is investigating modular co-ordination, and we are interested also in the work being done on the subject by the Building Research Station. We are keeping in touch with the development of this new principle with a view to its adoption for Army building when its advantages have been established. (28 July 1958.)

Architecture, Civil Engineering and Building. Sir A. Bossom asked the Minister of Education if he will advise all technical colleges, institutes and schools now having courses in architecture, civil engineering and/or building, that they should consider including in their curricula for final year pupils instruction in producing a proper time and progress schedule for all constructional operations, with a view to avoiding the present wastage of time in the actual construction of many buildings.

Mr. Geoffrey Lloyd: The study of time and progress schedules is now commonly introduced in the more advanced stages of courses in architecture. It is included in a few civil engineering courses and in the only building course so far recognised as leading to the Diploma in Technology and is touched on in many National Diploma and Higher National Certificate courses in building. I welcome these developments and will take appropriate opportunities to encourage the study of this and other methods designed to improve organisation on the site. (30 July 1958.)

ADVANCE PLANNING AND FIRM PRICE TENDERING. In the JOURNAL for August last on page 432 the views of the N.F.B.T.E. on Firm Price Tendering were published, and in the JOURNAL for November last it was stated by the R.I.B.A. Council that the Royal Institute confirmed the principle of firm price tendering. In November 1957 the N.F.B.T.E. issued a Memorandum supplementary to the statement in the JOURNAL for August last. Both these statements have been considered by the Joint Consultative Committee of Architects, Quantity Surveyors and Builders with the result that the following statement was issued:—

The Joint Consultative Committee of Architects, Quantity Surveyors and Builders have been studying the two statements on Firm Price Tendering, issued by the National Federation of Building Trades Employers in July and November last year, in relation to the J.C.C.'s earlier document, 'Plan Before You Build', and the Government's firm price tendering policy.

The J.C.C. welcome the N.F.B.T.E.'s initiative in preparing and issuing the statements and consider that they make a valuable contribution to tendering and contract procedure and that the guidance and advice they contain are of first importance in executing firm price building contracts efficiently and economically.

The J.C.C. wish particularly to emphasise to Government Departments, local authorities, and all other building owners and agencies responsible for the placing of contracts, the relevance and importance of the following points included in the three documents:—

1. Time spent in construction is more costly than time spent preparing for it. Money is saved by thorough preliminary planning. In his own interests, and in the interests of all concerned, the building owner must realise that any change of mind after work has commenced will be costly in both money and time to an extent which can be out of all proportion to the benefits derived from the alteration.

2. Tenders should be open for acceptance within two months, after which they should be subject to confirmation or adjustment by the contractor.

3. There must be strict adherence to the terms of the contract and complete documentation, which includes—at the planning stage:—

(*a*) Bills of Quantities prepared in accordance with the principles of the Standard Method of Measurement from the proposed contract drawings.
(*b*) A site plan.
(*c*) $\frac{1}{8}$ in. scale drawings.
(*d*) All such details and drawings as may be necessary to enable the contractor to commence the works.
(*e*) An adequate specification.

4. To ensure that the contractor pursues the correct course in carrying out the contract according to its intent and meaning, the architect should be informed—as early as possible after the contract is placed—not only of the contractor's time and progress schedule, but also what he requires from the architect to enable him to comply with that schedule.

Issue of Bills of Quantities

The Joint Consultative Committee of Architects, Quantity Surveyors and Builders feel that their Procedure Note issued in February 1958, may not have stressed sufficiently the opinion of the Committee that the complete bill of quantities should, save in exceptional circumstances, be issued to tenderers a sufficient length of time before the date for the submission of tenders to enable the contractor to prepare his tender.

With the object of preventing any misunderstanding, the following Procedure Note is issued in place of the earlier one:—

'It has been brought to the notice of the Joint Consultative Committee of Architects, Quantity Surveyors and Builders that there is an increase in the practice of issuing bills of quantities in sections during the period prior to the date for submission of tenders. The Committee recommend that, save in exceptional circumstances, the complete bills should be issued to tenderers in sufficient time before the date for the submission of tenders to enable the contractor to prepare his tender. In the very limited number of instances where this is impossible, adequate time should be allowed, after the issue of all relevant documents, for the contractor to give proper consideration to them before submitting his tender; if necessary, the date for submission of tenders should be postponed.'

ARCHITECTURAL PRACTICE. Unlimited Liability Companies. An architect may not carry on his practice in the form of a *limited* liability company. This would have the effect of limiting his financial responsibility to his client in cases where an architect's duty is called into question.

There is no objection to an architectural practice being carried on in the form of an *unlimited* liability company. The architect's financial liability is not thereby affected and his duty remains the same.

Where an architect considers that there would be some financial advantage in practising as an unlimited liability company, he would be well advised to consult a chartered accountant so as to realise how the Finance Acts can affect a business carried on in that form. It may well be that our legislators did not have architects in mind, but nevertheless the same laws apply to the poor as they do to the rich.

BUILDING CONTRACTS. Views on Tendering. Mr. Stanley Farrow, President of the London Master Builders Association, referred to 'the ridiculous practice of indiscriminate tendering' when he spoke to his area chairmen's conference recently. Building contractors, Mr. Farrow stated, were spending over £30 million a year in tendering for jobs which they would never get. He suggested that local authorities would be making a valuable contribution to reducing building costs if they would follow the example of the Ministry of Works and limit their lists according to the size of the job. With the credit squeeze and the consequent shortage of work, he continued, many employing authorities, both public and private, were finding that they had a wider choice of firms anxious to tender, and seemed to think that they might obtain keener prices if competition was unlimited. Such a view was 'a complete fallacy' and in the long run lengthy lists of tenderers did no good either to the contracting side or to the industry as a whole, but were merely the cause of wasted time, effort and money, apart from the obvious frustration of those employed on the actual estimating. 'By limiting the number of tenders asked for', Mr. Farrow declared, 'we do not in any way want to kill competition; on the contrary, we want to make it more effective.'

RIGHTS OF LIGHT. In March 1957 the Lord Chancellor appointed a Committee to consider whether it was desirable to amend the law relating to rights of light having regard to the development of war-damaged sites being prevented or impeded

by restrictions or controls imposed during or after the late war.

The Committee sat under the Chairmanship of Mr. Justice Harman, and its Report has now been issued and is obtainable at H.M.S.O. price 1*s.* net.

The recommendations if adopted by the Government would require legislation.

Mr. P. V. Burnett [*F*] was a member of the Committee.

MINISTRY OF HOUSING AND LOCAL GOVERNMENT. Administrative Tribunals and Inquiries. Circular 38/58 dated 14 July addressed to local authorities refers to appeals under the Town and Country Planning (Control of Advertisements) Regulations, and the report of a visit to the site by an officer of the Department accompanied by representatives of the parties. The Minister has decided as follows:—

The main object of a visit in such a case is to enable one of the Minister's officers to inspect the site of the appeal and to report on it; but in the course of time it has become established practice for the officer to report also any representations made by the parties at the visit, even though in some cases written representations are submitted by them as well. The Minister has decided that, in respect of accompanied visits which take place as from the date of this Circular on appeals under the above Regulations, the letter giving the Minister's decision on the appeal will state that any recipient may obtain a copy of the officer's report if a request is made for it within one month of the date of the letter. These copies will not include maps and photographs.

It is not intended to alter the informal nature of the proceedings at such visits.

The Minister regards it as important that the statement of reasons given by a local planning authority for refusing consent or granting consent subject to conditions for the display of an advertisement shall be full enough to give the applicant adequate understanding of those reasons. It is not sufficient to say that the display of an advertisement would be against the interests of amenity, or against the interests of public safety. In the former case it should be explained what is the amenity and how that amenity would be affected, and in the latter case it should be explained in what way public safety would be imperilled.

NATIONAL JOINT COUNCIL FOR THE BUILDING INDUSTRY. Standard Rates of Wages. By the terms of an Award accepted by the National Joint Council the standard rates of wages as from 23 June 1958 are as follows:—

NEW RATES PER HOUR (as from Monday 23 June 1958).

1. Craftsmen and Labourers:

	London		Grade		Liverpool District
	Inner	Outer	A	A1	
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Craftsmen	4 9½	4 9	4 8	4 7½	4 9½
Labourers	4 3	4 2½	4 1½	4 1	4 3

2. Apprentices and Young Male Labourers:

Apprentices

Age	London		Grade		Liverpool District
	Inner	Outer	A	A1	
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*
15	1 2½	1 2¼	1 2	1 2	1 2½
16	1 7¼	1 7	1 6¾	1 6½	1 7¼
17	2 4¾	2 4½	2 4	2 3¾	2 4¾
18	3 0	2 11¾	2 11	2 10¾	3 0
19	3 7¼	3 6¾	3 6	3 5¾	3 7¼
20	4 2½	4 2	4 1	4 0¾	4 2½

Young Male Labourers

Age	London		Grade		Liverpool District
	Inner	Outer	A	A1	
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*
15	1 5	1 5	1 4½	1 4½	1 5
16	1 11	1 10¾	1 10½	1 10¼	1 11
17	2 10	2 9¾	2 9	2 8¾	2 10
18	4 3	4 2½	4 1½	4 1	4 3

The new rates for Watchmen as from 28 July 1958 are as follows:—

London and Liverpool, 26*s.* 0*d.* per shift. Provinces, 24*s.* 9*d.* per shift.

LANDLORD AND TENANT (TEMPORARY PROVISIONS) ACT, 1958. This Act is now in operation and the Ministry of Housing and Local Government has prepared a leaflet explaining the provisions of the Act as it affects the rents of houses decontrolled on 6 October next. The leaflet is obtainable from local authorities, the Citizens' Advice Bureaux and from the Ministry on written application.

THERMAL INSULATION (INDUSTRIAL BUILDINGS) ACT, 1957. The Minister of Power has now made Regulations under this Act which prescribe standards of insulation against loss of heat from the roofs of new industrial buildings or extensions begun on or after 1 January 1959. Some classes of buildings are exempted.

An Explanatory Memorandum has been published and is obtainable at H.M.S.O., as also are the Regulations (1958 S.I. No. 1220/1958).

LAW CASE

Granada Theatres Ltd., v. Freehold Investment (Leytonstone) Ltd. What are 'substantial structural repairs'? Chancery Division, 13 June 1958. In this case the Court had to construe a covenant in a lease that the lessee must 'keep the demised premises in good and substantial repair and condition . . . but nothing in this clause contained shall render the lessee liable for structural repairs of a substantial nature to the main walls roof foundations or main drains of the demised building'. The landlord's covenant was to 'repair maintain and keep the main structure walls roofs and drains of the demised premises in good structural repair and condition at all times during the said term'.

His Lordship observed in the course of his judgment that the expression 'structural repairs' had never been judicially defined and he himself would say that 'structural repairs' means repairs of, or to, a structure. In this case the two matters concerned were repairs to the roof and one of the main walls of the cinema. The roof was partly slated and partly asbestos sheeting and his Lordship held that the roof is part of the structure and any repairs to it are necessarily structural repairs. Treating the word 'substantial' as equivalent to 'considerable' and measuring the liability more by reference to the antecedent disrepair than by the repairs themselves, they plainly are considerable, with the result that they are excluded from the lessees' obligations and fall into the landlords' obligations.

It must be taken to be admitted that the

nine-inch wall is one of the main walls of the building and is therefore part of the structure of the building. A cement rendering had been applied to the front of that wall and is now peeling or falling or stripping off owing to the intrusion of damp or some other reason, and the cement has taken away with it parts of the bricks to which it was intended to adhere, and here again there is a structural disrepair calling for a structural repair of a considerable or substantial and not a trifling or inconsiderable nature. His Lordship held that the repairing of the nine-inch wall by replacing the now detached rendering and restoring or replacing the bricks injured by the coming away of the rendering, is also excluded from the lessees' obligation and falls within the obligation of the landlords.

His Lordship directed an inquiry to be taken as regards the amount to be allocated in respect of the disrepair of the roof and the terms of the declaration as to the wall. The lessees were given costs down to and including judgment, further costs to be reserved. (THE ESTATES GAZETTE, 21 June 1958.)

[*Note*. The inquiry as to amount was ordered because the lessees had spent £961 in repairing the roof and the landlords had obtained an estimate for doing the same work for £130 10*s*.]

Review of Construction and Materials

National Inspection Council for Electrical Installation Contracting. Reference was made in the R.I.B.A. JOURNAL for December 1956, page 72, to the formation of the National Inspection Council for Electrical Installation Contracting, an organisation set up for 'the protection of consumers of electricity against unsound, unsafe or otherwise defective electrical installations'. The National Inspection Council carry out this mission by publication of a Roll of Approved Electrical Installation Contractors who have voluntarily undertaken to comply with the Regulations for the Electrical Equipment of Buildings issued by Institution of Electrical Engineers and to submit themselves to periodical inspection by one of the inspecting engineers employed by the National Inspection Council. The advantage to architects of employing an approved contractor of the National Inspection Council is manifest, because not only has the contractor undertaken to comply with the I.E.E. Regulations and to use good material, but his work is inspected at least once a year by one of the National Inspection Council's inspectors to ensure that he is in fact maintaining the standard and that all his work is carried out under adequate supervision. Should a case of unsatisfactory work occur in spite of this, reference to the National Inspection Council can be relied upon to put matters right.

Arrangements are being made for a copy of the second edition of the Roll of Approved Electrical Installation Contractors to be sent to each of the Allied Societies of the R.I.B.A. immediately and will there be available for reference. In addition to this the National Inspection Council through their mailing agents arranged for the dispatch of a copy of the Roll to all firms of architects as well as to the architects of local authorities and other statutory bodies. Anyone who has not received a copy of the Roll in this manner and who requires one is asked to apply to the Secretary, National Inspection Council for Electrical Installation Contracting, Aldine House, 10–13 Bedford Street, London, W.C.2.

Recent publications

British Standards and British Standard Codes of Practice

B.S. 1493: 1958. **Polystyrene moulding materials.** Price 4*s*.

B.S. 1709: 1958. **Drawing instruments for drawing office use.** Price 4*s*. 6*d*. This new B.S. combines in one volume and supersedes the previous editions of B.S. 1709 and B.S. 2460. It includes instruments normally contained in a case or set of drawing instruments; it does not include such items as scales, set squares, tee-squares or protractors for which other standards already exist. The B.S. is in two halves one dealing with the specification of materials and the other with nomenclature.

B.S. 2951: 1958. **Glossary of terms used in high vacuum technology.** Price 7*s*. 6*d*.

B.S. 2989: 1958. **Continuously hot-dipped galvanised plain steel sheet and coil.** Price 3*s*. 6*d*.

B.S. 2990: 1958. **Rationalised and unrationalised formulae in electrical engineering.** Price 4*s*. 6*d*.

C.P. 1008: 1958. **Maintenance of electrical switchgear.** Price 8*s*. 6*d*.

These publications are available from British Standards Institution, British Standards House, 2 Park Street, London, W.1.

Ministry of Works Advisory Leaflets.
No. 43, 1958. **Testing concrete.** Price 4*d*.
No. 44, 1958. **Smoky chimneys.** Price 4*d*.

Department of Scientific and Industrial Research
Building Research 1957. Price 5*s*. 6*d*.
Forest Products Research 1957. Price 6*s*.
National Building Studies, special report No. 26. **Simplified daylight tables.** Price 1*s*. 9*d*.

These publications are available from Her Majesty's Stationery Office.

Council of Industrial Design
13th annual report of the Council with its Scottish Committee. Price 7*s*. 6*d*.

This publication is available from The Design Centre, 28 Haymarket, London, W.1.

Modular Society
Transaction No. 25, Summer 1958. Price 5*s*. (5*s*. 6*d*. incl. postage). This issue includes two major articles, firstly 'the Modular Society reports results of 5 years' work' in the form of a modular system ready for practical application and, secondly 'Brick sizes, the 4-in. module and modular brickwork', a paper given to the Society by Mr. Bruce Martin [*A*], Head of Modular Co-ordination Studies, British Standards Institution.

This publication is available from the Modular Society, 22 Buckingham Street, London, W.C.2.

British Plastics Federation
Publication No. 42, 1958. **Specification for tube for cold water services made from high density polythene.** Price 1*s*.

This publication is available from the British Plastics Federation, 47/48 Piccadilly, London, W.1.

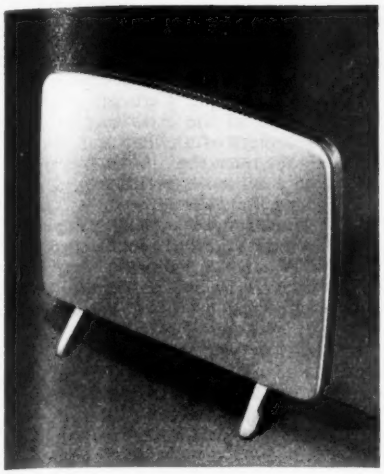
British Wood Preserving Association
Seven papers given at the Association's annual convention at Cambridge, July 1958.
No. 1. A marine exposure test of chemically impregnated poles and untreated controls in South African harbours, by P. M. D. Krogh.
No. 2. The permeability of wood and its importance in timber preservation, by D. N. Smith.
No. 3. Penetration of preservatives into refractory wood, by Ing. Vladimir Rubes.
No. 4. Some curiosities of fungal and insect attack on timber, by Claude Sisley, F.R.E.S.
No. 5. Treatment of timber against attack by insects and fungi in warm climates, by D. Boocock.
No. 6. On some organic solvent types of timber preservatives in Germany, by Dr. Günther Becker.
No. 7. Some experiments with oscillating pressures in wood impregnation, by Sten T. Henriksson.

These papers are available from the British Wood Preserving Association, 6 Southampton Place, London, W.C.1.

British Electrical Development Association
List No. 6, 1958. **List of recommended domestic electrical appliances for local authority housing,** compiled at the request of the Ministry of Fuel and Power.

This publication is available from the British Electrical Development Association, 2 Savoy Hill, London, W.C.2.

Reminder
R.I.B.A. and Building Centre Competition for Manufacturers' Trade and Technical Literature 1958. Last day for submitting entries, 31 October 1958. All inquiries to The Building Centre, 26 Store Street, London, W.C.1 (Museum 5400).



New Hurseal convector

New building products

These notes on products are compiled from manufacturers' information and comments are those of the manufacturers not the editor.

Hurseal convector. Just introduced by the Electrical Appliance Division of Hurseal is a new electric convector heater which has slim, elegant, contemporary lines.

Designed for high space heating efficiency it has a 2 kW element which gives rapid warm-up and a 3 heat switch for a high degree of control. Overall size is: height 25 in. (including feet), width 28 in. and depth 2½ in. This first model is marketed in the 230–250 V a.c. range but the 200–210 V a.c. range is available with a six-week delivery date.

The sides and top and bottom air grilles are a gold colour anodised metal band which contrasts well with the smooth cream panel body of the heater. The handle, which folds flat when not in use, enables the convector to be easily carried when necessary as it swings the appliance well clear of the body. The 3 heat control switch and drop-handle are located at the back of the heater and do not interfere with the clean appearance of the front. Plastic buffers on all feet prevent slipping and marking of polished floors.

Retail price of the new Hurseal electric convector is £9 9*s*. 10*d*. including purchase tax. (Hurseal Limited, 229 Regent Street, London, W.1. Telephone: Regent 1051/6.)

Wallfold. A new range of folding doors and walls by Home Fittings (Great Britain) Ltd., 123 High Street, Uxbridge. (Uxbridge 8543.)

The basis of the Wallfold is a simple, smooth working series of interconnected 'concertina' units. Each unit comprises four 1/16 in. steel plates hinged to each other about connecting rods. No oiling or maintenance of any kind is required and all metal parts are galvanised and rust proof. Wallfold is to be available in a wide range of standard sizes but the manufacturers will, of course, be building to any specification required.

A covering of p.v.c. leathercloth is easy to clean and hardwearing. Rubberised paints are available for use on p.v.c. leathercloth to match any colour or furnishing scheme.

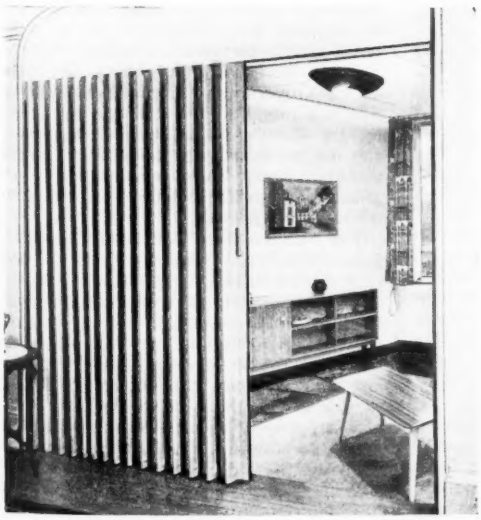
Draught exclusion is assured by a flexible rubber sweep strip which, attached to the lower edge of the leathercloth, completely takes up any floor irregularities. A spring clip in the track ensures perfect closure. A plastic handle is fitted for ease of operation of both doors and walls.

Aluminium refuse hoppers by Code Designs Ltd., Oldfield Lane, Greenford, Middlesex. (Waxlow 2828.)

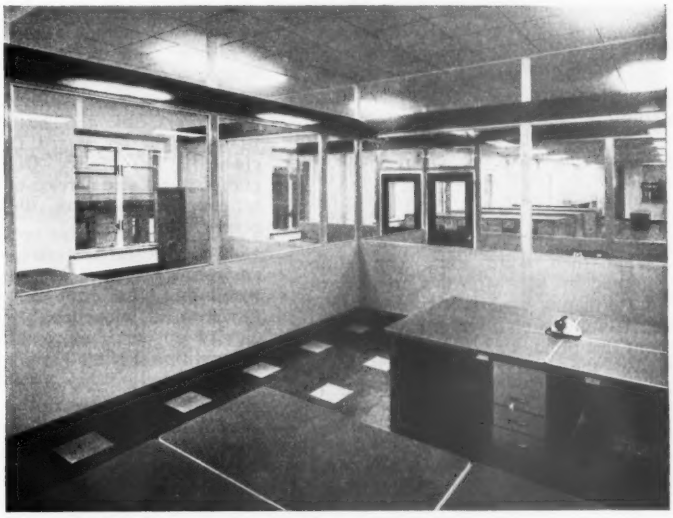
In the past refuse hoppers have been fitted on open balconies or staircases and a high degree of quality and airtightness has not, therefore, been necessary; nowadays it is desirable to have a better quality article with a close fitting door to prevent the escape of smells and which is quieter in operation.

Code Designs Ltd., refuse hoppers

This new refuse hopper embodies these requirements and consists of a cast iron frame which is delivered to site for building-in. At completion stage the aluminium door (finished in an attractive stove-enamelled finish if required) is delivered and fitted. The production is so arranged that any door will fit any frame. The bottom or shoot portion of the hopper is counterbalanced so that with the use of special neoprene plastic rubber lining or gasket, which also is used as an internal lining to the door, a virtually airtight closure is ensured. The handle is purpose



The Wallfold folding doors



Sankey Sheldon Ltd., 'Picture Window' steel partitions.

designed for grip and ease of operation and engages with a specially shaped wedge plate resulting in very quiet and efficient closure. Attention has been given to the maintenance of the hopper and all wearing parts other than the basic cast iron frame are replaceable.

'Picture Window' steel partitions by Sankey Sheldon Ltd., 46 Cannon Street, London, E.C.4. (City 4477.)

'Picture Window' fully-flush movable partition units are fabricated from steel with double-sheeted, sound-deadened lower panels. Continuous removable floor skirting, cornice, and posts with removable pilasters enable electrical wiring and other services to be concealed within the partitions although being immediately accessible. Glazing above the lower panels is by means of ¼ in. plate glass secured by glazing beads and normally set in putty.

Normal standard heights for free-standing partitions are 7 ft. 5 in., 8 ft. 5 in., 9 ft. 5 in., and 10 ft. 5 in., but there is no difficulty in providing any desired height and fitting to underside of ceiling or beams. The 'Picture Window' glass areas are governed in width by the sizes of the steel lower panels, viz. 3 ft. 3 in., and 2 ft. 9 in. Balanced combination of these, therefore, provides continuous glass spans of 5 ft. 6 in., 6 ft. 6 in., 8 ft. 3 in., or 9 ft. 9 in.

There is a choice of five stove-enamelled colours, or units can be supplied with a prime stoved coat for finishing on site.

Architectural Competitions

A Reply to the Rt. Hon. Hugh Molson, M.P., Minister of Works

THE QUESTION WAS ASKED in the House of Commons recently as to whether the proposed residence in Lagos for the U.K. High Commissioner should not have been the subject of an architectural competition.

The Minister of Works, Mr. Hugh Molson, replying, said that the urgency of this scheme would not have allowed the time necessary for a competition. Unfortunately the Minister did not let it go at this, but went on to say that he was not in favour of competitions as a means of appointing architects for schemes of this type, and that in the last hundred years his Department had on a number of occasions organised competitions, and in no single case had the successful design for a major Government building been carried out.

This statement was received by the House with laughter.

It was also widely reported in the Press.

Whether the laughter was directed at the Ministry for admitting to such a queer record or whether the very idea of architectural competitions seems funny to M.P.s is uncertain, but the statement cannot be left unanswered since it gives the impression that a Government Department after a century of experience has rejected this method of selecting an architect.

The early history of architectural competitions, like the early history of parliamentary representation, records some scandalous incidents. Both have had much to live down, but both have achieved respectability.

What, then, were these competitions promoted by Mr. Molson's predecessors? What unhappy memories passed on from civil servant to civil servant have brought about this prejudice?

Over the period of a hundred years mentioned by Mr. Molson and which he may have had in mind there were the following open competitions:

1856–57. *Public Offices in Whitehall* (218 *competitors*). The winning scheme was abandoned and Sir Gilbert Scott, who won the third prize for the Foreign Office portion, was later appointed to design the whole of the present block between King Charles Street and Downing Street.

1864. *Natural History Museum* (32 *competitors*). The successful competitor dying, the scheme was abandoned. Alfred Waterhouse, who was not one of the finalists, eventually designed the building.

1883–84. *Admiralty and War Office* (128 *competitors*). The winning scheme was abandoned but Leeming and Leeming, who were one of the successful competitors in the preliminary competition, were later commissioned to design a building for the Admiralty only, which was built.

1913. *Board of Trade, Whitehall Gardens* (187 *competitors*). The winning design by Mr. E. Vincent Harris, R.A. [*F*], was abandoned owing to the outbreak of war. When the matter came up again in the 1930's a larger site was available. After the Ministry had consulted a list of names submitted by the R.I.B.A., the winner of the original competition was appointed to design the new and larger building now to be seen in Whitehall.

In the same period there were three limited competitions:

1866–67. *National Gallery rebuilding* (10 *competitors chosen*). The assessors failing to agree on an award the Government chose E. M. Barry from among the competitors, who carried out the extension scheme, much more limited than his competition design.

1866–67. *Royal Courts of Justice* (10 *competitors chosen*). The assessors' recommendation was not accepted by the Government, who chose Street. The scheme carried out once more differed from the competition design.

1890. *South Kensington Museum* (8 *competitors*). The successful competitor was appointed in this case, but the scheme was then abandoned. Sir Aston Webb, the winner, was however eventually commissioned to design two separate buildings, namely the Victoria and Albert Museum and the Royal College of Science.

Of the above competitions only one was held in the present century. This reduces the experience of Mr. Molson's Department to one instance in the last 58 years. Not great or recent. Certainly not great enough to offset the experience of many other promoters of architectural competitions, among them the Church, a patron of architecture whose experience goes back even further than a century.

The Church does what every sensible client, including Government Departments, is free to do, choses the man it wants when it knows who he is—Bentley for Westminster, Lutyens for Liverpool (although if Bentley had not let it be known that he would not compete there might well have been a competition for Westminster Cathedral). Otherwise, when a cathedral has to be designed a competition is held. Can it be said that Liverpool Anglican, Guildford and Coventry have discredited this alternative?

Since the end of the last war over forty competitions open to architects have been promoted in the U.K. alone and a large number of the winning designs have resulted in buildings of distinction. To mention only a few—the Pimlico Housing Scheme for the City of Westminster, the Golden Lane Scheme for the City of London and the T.U.C. Headquarters building.

The architectural profession has not allowed occasional failures to shake its faith in the value of open competitions. It is the only profession which offers its clients a comprehensive and selective means of choosing a professional man. In no other profession are members willing to put so much skill, time and labour into such a hazardous venture as a competition.

It is not so well known as it should perhaps be, that much of the success of a competition depends on its promoters. How often can it be said that a reasonable client, owning a good site, who expresses lucidly his requirements, has been let down by the competition method? Surely very seldom indeed and usually in the cases where the advice of the assessors has been disregarded. Such results cannot be attributed to the competition system. Perhaps there is something inhibiting or timid about Government Departments. If so this is a pity, for it is through the architecture they sponsor that Governments can inspire their own people and impress visitors, apart from encouraging progressive design, the need for which has so often been expressed.

The Minister should be reminded that a general election is in some respects an open competition in which the electorate act as assessors. Some results of this system might be sufficiently damaging, but on balance it works well and is the best we have.

It should not be difficult to forget the last hundred years, Mr. Molson, and gain experience of the system by taking the first opportunity to promote a competition among architects. It might convince the Ministry that there is something in the idea after all.

W. F. HOWARD [*F*]
Chairman, R.I.B.A. Competitions Committee

Correspondence

ARCHITECT AND ENGINEER

The Editor, R.I.B.A. Journal

Sir,—It is, I think, apparent to most architects—and many engineers—that there is need for improvement in the manner and means of collaboration now necessary between architect and engineer in the design of almost every kind of structure, large and small. I therefore welcome the opportunity to discuss this need at the Joint Meeting of the R.I.B.A. and I.C.E. to be held on 20 January 1959.

At this meeting I have been asked to put forward the architects' views of this collaboration, and Mr. Ove Arup will put forward those of the engineers. With the help of other architects and engineers who will have the opportunity of expressing their views at this meeting, we hope for developments which may lead us towards a better mutual understanding and therefore better collaboration.

It may help architects and engineers in considering the contribution which they can give at this Joint Meeting if I give briefly some thoughts on this collaboration and some questions on how it might best be achieved.

I think it is necessary in some form in almost every structure we design today—that 'form' may be direct or indirect and may vary considerably. History points to the fact that the ideal conception and development of any design should come from a single master mind. Yet it is doubtful whether today, with the complexities of materials and methods, and the developments affecting basic structural design and electrical and mechanical equipment, that a single person is capable of dealing with all the many problems arising on any project. But as, from the architect's point of view, the impact of engineering techniques cannot be eliminated from the development of his design, so neither should the sense of aesthetic qualities be eliminated from that of the engineer. Collaboration between us is, therefore, in my view, inevitable and, in these days, right.

The principle of any kind of collaboration must rest for success on the sympathetic understanding between all the collaborators. By chance some architects may be engineering minded—some engineers architecturally minded—when this happens there is perhaps no need to worry. But chance is too uncertain although often the most successful in the end. How then can we obtain the principle when this luck has failed us? Principles surely come from education—so it would seem that for the majority the chances of a successful collaboration are going to increase if we can introduce an element of 'co-education' during the training of architect and engineer. It is in a form of co-education that I make my first point for proper collaboration.

Obviously co-educational co-operation will take time. It is long term. Progress is usually best made by a combination of the long with the short term—while we consider the education of those following us we must see what we can do now. We must set out to achieve a sympathetic understanding of the contribution which both architect and engineer can give to the creation of any structure.

This poses many questions. Is the present normal method of working between an individual architect, or firm of architects, and consulting engineers who may be thrown haphazardly together on a project the best—could we develop or improve on it? Would it be better if we developed the combined firm of architects and engineers?—we have examples of this both here and in the States to study. Or should we shelve all our professional pride and seek this collaboration as part of a contractual service?—wrap up architect, engineer and contractor in a single bundle. These, in my opinion, are the questions to be faced, and if possible solved, for the national benefit if not necessarily for our own.

It may well be comparatively easy to improve the collaborative working between architect and structural engineer—our affinities are already close, our problems not dissimilar and, from the architect's point of view, reasonably within his grasp—did we not as students try to grasp the 'Theory of Structure'? But as students nobody told us very much about electricity and mechanical services as affecting our designs. Yet now we know how much they do. The smallest house design can be affected by the system of heating chosen—the biggest industrial project can be architecturally ruined by the fans and ducts of mechanical ventilation. Have we not, therefore, to seek a means of collaboration of a trinity—or can the engineers combine structure and mechanics? If not we must accept that the single word 'engineer' is a misnomer for two distinct services, and so face up to the third party in the overall conception of a design.

Rightly for the purpose of our discussion I am looking at the problem where the kind of project can be generally conceded as predominantly within the architect's field. But as architects we would be unwise to disregard the arguments, which I am sure Mr. Ove Arup will make, that there are projects—bridges, for example—where he will contend that engineering is the predominant factor. If we accept this we must broaden our outlook on the problem as a whole as in other respects we have thought of collaboration as being co-operation with us at the apex of the triangle. Surely if we seek unification of thought as the ideal we must arrange it so that it operates similarly for any kind of project.

Perhaps the most acute aspects of this whole problem are the economic factors that can be affected, and through them our national responsibility as architects and engineers. How easy it is at present to force the individuality of our expressions to a stage where the result is uneconomic—neither architect nor engineer is blameless in this but in honesty are not architects more often prone to it? Can it not be that out of a better collaboration we shall be able to relate more effectively the individuality of our designs to the proper economy which the project may demand?

I think these questions, for which I am sure we all have answers, however different, show that these joint discussions are timely and important to both architect and engineer.

E. D. JEFFERISS MATHEWS [*F*]

OXFORD CONFERENCE ON ARCHITECTURAL EDUCATION

Sir,—The recent report of the Conference on Architectural Education has caused surprisingly little comment in the architectural press. We consider that a subject of such fundamental importance should be keenly discussed, and would like to use your columns to welcome the report and to make a number of points which arise from it.

Reform in this field is long overdue, and the fact that the R.I.B.A. Council has taken immediate action as a result of the report must be regarded as progress indeed. But while we recognise the value of what the report contains, detailed study leads to the conclusion that there are several fundamental considerations, some included in the excellent terms of reference, of which the report makes little mention. We feel that it would have been of considerably greater value had it defined the aspects requiring further consideration, but about which the conference did not make recommendations.

It may be that this was due to lack of agreement, or to the large number of members present, the extremely varied constitution of the conference, coupled with the limited time available, and that the Board of Architectural Education is well aware of this. On the other hand there may be a danger that if further discussion is lacking, the R.I.B.A. Council will feel that in accepting the report it has done all that is necessary in the field of education.

Many of the suggestions in the report will, if implemented, be of great assistance. We strongly applaud the clear statement in favour of full-time training and the suggestions for raising the standards of entry and providing post-graduate courses.

But no picture of the form that architectural education should take (as distinct from the institutions in which it should occur) emerges from the report nor any indication of the standards by which an architectural training should be judged. These are not points of detail unsuitable for consideration at the conference. No assessment of any course of architectural training can be made until these standards exist.

The question of standards is, of necessity, bound up with the architect's function in society, and professional status will depend on his discharge of that function. It is difficult to avoid the thought that the conference, consciously or not, was influenced by considerations of status, since its conclusions were in many instances foreshadowed in the paper 'Some Thoughts on

Professional Status' (R.I.B.A. JOURNAL, January 1958). This would be a case of the cart before the horse. If architects are able, their status is assured, although excessive numbers may depress income levels. The conference clearly recognised and commented on the increase in the number of architects, and it is a pity that they were unable to define more fully the new 'high standard of training envisaged' and to couple it with a policy for the logical control of recruitment to the profession.

The findings of the conference on the needs of the community seem to have been limited to comments on the numbers qualifying. If architects are to be trained to fulfil their true function in society, some definition of this function is required. We would hesitate to dogmatise on this point. However, Sir Eric Ashby made an important observation on this subject at a recent R.I.B.A. symposium. He said, 'The purpose of university buildings is not to ornament the landscape; it is to keep members of the society, together with their books and equipment, warm, dry, and adequately illuminated. . . . If the architect can make the building beautiful, so much the better.' We feel that this statement must be accepted basically, although it does less than justice to the full function of the architect as a creative artist. Until the profession accepts and discharges these basic obligations to the community, architecture can never reach its full stature.

In this light the proposed split between architects and technologists is alarming. It runs completely contrary to the present trend of architectural development which is tending to give technical considerations their rightful place. It ignores the fact that an office composed of architects and technical draughtsmen is unsuited to the nature of architectural work where everything is touched by design.

It may well be that varying levels of architectural qualification are desirable, but none of them should exclude some training in design.

An equally alarming suggestion is that the technologist should be of a lower standard of educational attainment. With the rapid increase in technical complexity taking place at present this conception, if not already out of date, will very soon be so.

We believe that architects and others concerned with building should be brought into a close relationship, particularly during their training. The silence of the conference on this point is doubly surprising in view of the recent statements in the architectural press (particularly the article on A Faculty of Building by Percy Johnson-Marshall, A.J., June 1957).

A common initial course would allow students of varying aptitudes to develop their talents in the most appropriate way, and avoid the wastage and misapplication of talents occurring at present.

It is in any case an illusion to consider the education of architects except in relation to the training of those with whom they will have to deal.

Another important conclusion of the conference was that the minimum standard of educational attainment at entry should be raised to two passes at 'A' level in the G.C.E., and this appears to have been seen as a panacea. While we welcome the suggestion, it does not seem of itself to be enough. If it were, there should be evidence that schools at present accepting students only at this educational level are producing better graduates than the others.

A great deal of detailed work is required to establish the form and content of architectural training suited to present needs. The R.I.B.A. is the body which must accept full responsibility in this respect.

This inevitably raises again the question of standards at the qualifying level, on which the conference made no recommendation. Unless the raising in entry standards is coupled with a higher qualifying standard, it is difficult to refute the inference that a number of those who at present qualify as architects would be excluded by an arbitrary academic entry standard, so that the remaining ones gain in status by rarity rather than by increased competence.

In addition to the establishment of a qualifying standard, some means of selection for architectural students is an urgent necessity. For a technological course a standard based on educational attainment and intelligence can suffice, but this cannot be the case in architecture where other faculties are needed. Undoubtedly, in a group of higher intelligence, the best designers may be better and the worst designers not as bad as those from a less gifted group, but this cannot be made an excuse to avoid the responsibility of selection. To fail the student after a year if he lacks the special aptitudes required is an admission of failure by the system rather than the student. Reluctance to do this often results in the retention of mediocre students. The problem could be largely solved by the initial course mentioned above.

The suggested development of postgraduate studies is a welcome step forward in a sadly neglected field. Teaching isolated from its natural background of advanced study must inevitably become mechanical and dull. The R.I.B.A. must accept a fundamental responsibility not merely to recommend that research should take place but to initiate, co-ordinate, and support actively institutions and individuals undertaking it.

PETER BURBERRY [*A*]
D. M. CORDER [*A*]
B. H. LOXSTON [*A*]
S. C. READMAN [*A*]
J. M. SCOTT [*F*]
R. J. TURNER [*A*]

Book Reviews

The Works of Pier Luigi Nervi. Trans. by *Ernst Priefert*. 9 in. × 11 in. 152 pp. incl. illus. Architectural Press. 1957. £2 16s.

The Structures of Eduardo Torroja, by *Eduardo Torroja*. 10 in. x + 198 pp. incl. illus. New York: Dodge Corpn. 1958. $8.50.

The works described in these two books are notable for their variety, quality and methods of construction. They are designed to satisfy an extraordinary range of special requirements and bring to mind the early definition of an engineer as 'a person of genius or ingenuity'.

Eduardo Torroja provides his own commentary. He explains clearly, sometimes with humour, how he conceived the designs, the sequence of operations for their erection and his conclusions upon their completion. Ingenuity, this designer's dominating characteristic, is often in evidence as, for example, in the design of the Quince Ojos Viaduct—a series of circular arches which required expansion joints at frequent intervals yet in positions where the appearance would not be marred. He decided therefore to place the joints exactly at the arch crowns, thereby transforming the arches into double cantilevers.

Nervi's ideas, on the other hand, are confined to a short preface which nevertheless clearly summarises his views on his works to date. He is justifiably convinced from his own experience of the nature of a good structure and maintains 'that a good structural organism worked out passionately in detail and in general appearance is essential to good architecture'. This cannot be denied, and if it is far from being a complete statement, it reveals Nervi's ultimate objective.

In both these books, the structures standing in their own right and designed to support given loads and resist the applied forces, are generally satisfying and complete, as for example some of the bridges, water towers and dams.

Other structures, however, fail as a framework for the organisation of the buildings of which they form a part. Seen as part of a complete building, Nervi's structures sometimes lose their intrinsic value. This is most noticeable in the Unesco Building, where a structure which during its construction was revealed as a masterly organism overpowering in its emotional impact, has been, it seems to me, mutilated, misconstrued and damaged irreparably during the subsequent translation into a building. This is a classic example of 'a good structural organism worked out passionately in detail, essential to good architecture', but calling forth no response.

It is as if the structures of Nervi have set a standard and a challenge to the architect, which the latter has been unable to meet. They cry out for an understanding of a building as a totality which is as comprehensive as Nervi's understanding of a structure in its own right.

To study these books is an education in the design of structures and a stimulus to consider wherein a structure for building *differs in degree* from one designed only for the economic distribution of physical forces. For a building, the latter remains a partial solution, if only because, as modern chemistry shows, structure is also a means to the organisation of the whole and a valuable aid to its expression.

BRUCE MARTIN [*A*]

Living with the Sun. Vol. 1. Sixty plans selected from International Architectural Competition to Design a Solar-Heated Residence. Square 14 in. xii pp. incl. illus. + 60 pls. Phoenix: Association for Applied Solar Energy Research. 1958. $6.

This is Volume 1 of the results of a competition sponsored by the Association for Applied Solar Energy in 1957 (there is no indication of what Volume 2 is to be).

Of the 130 entries most were American, although British, Danish, French, Australian, Canadian and Swiss architects are also represented amongst the 60 published. Five prizes were awarded and three designs were given Honourable Mentions.

The programme specified a house of an area not exceeding 2,000 sq. ft., excluding terraces, car ports, etc., to be built on a selected site in Phoenix, Arizona (climatic details were supplied with the programme) for a typical American family with two children. 'The occupants of the house, having great respect for the sun and its influence on their way of life, would feel strongly that the energy of the sun should be harnessed for the purpose of heating and eventually cooling the house, and also that it should be controlled indirectly for their comfort, enjoyment, and well-being.' This was to be done by collecting solar energy for heating the house and hot water supply as well as a swimming pool. Eventually, by the use of solar operated refrigeration equipment (heat exchange principle), the energy was also to be used for cooling. The chief problem was that of incorporating adequate areas of solar collectors and somehow moving the energy, by means of liquid or gas, to a heat storage unit for use as required.

Two fundamentally different approaches to solar energy collection were adopted. Some competitors attempted to combine this with the structural form of the house, whilst others frankly expressed this mechanism as a completely separate structure.

The few solar houses already built in the United States, some in the colder climates such as Massachusetts, have demonstrated the feasibility of space-heating by means of solar energy for at least part of the winter. The difficulty is always the low efficiency in the energy conversion which necessitates large collecting areas, and that of storing up sufficient energy to cater for the longer sunless spells. It seems a curious escape from these problems to have set the site in Phoenix, where, according to the climatic information supplied to the competitors, the daily average sunshine over the whole twelve months rarely drops below ten hours, and where, even on the coldest December day, 1,110 B.t.u./sq. ft./day solar energy was available and the figure exceeded 3,000 B.t.u./sq. ft./day in midsummer. The necessity for any form of heating under these conditions seems doubtful, provided the house had adequate windows facing in the right direction.

The ingenuity used in devising the methods for the collection of and protection against solar energy are nothing short of fantastic. Parabolic mirrors, adjustable reflecting louvres, floors of glass blocks covering concrete heat storage blocks, polaroid adjustable windows, removable plastic screens, multiple windows with layers of adjustable aluminium foil strips and even swimming pools used as solar energy storage tanks are proposed. Some of these devices are not only less efficient than 'conventional' mechanisms, but overtax their authors and they become not spring-boards for an integrated design but overriding and crushing limitations.

The jury, Pietro Belluschi, Carlos Contreras, Thomas H. Creighton, James W. Elmore and Nathaniel Owings, were only too aware of the difficulty of combining a sound engineering solution with an imaginative and workable design and their comments on the designs are almost exclusively concerned with this aspect. Little attempt is made to evaluate the scientific soundness of the schemes. It is heartening that the fourth prize should have gone to I. C. Christensen and Bent Windelow, two Danish architects, whose plan was almost unique in avoiding the villa cliché and who combine a delightful simplicity with a workable system of vertical collectors evenly spaced on the roof. Had more attention been paid to the climatic and mechanical soundness of the schemes two designs by Clive Entwistle of England (which arrived too late to be judged in any case) might have come high amongst the prize winners as also that by Victor Olgyay, an internationally acknowledged expert on climatic studies. Completely abandoning the flat collector plates, he collects the energy by means of reflecting, adjustable louvres, which throw the beams on to and through a glass block floor, below which the heat is stored in concrete blocks. The jury '. . . questioned the livability of the proposed solar heating system which would create a difficult insulation problem'. Not, apparently, a question of cold feet!

The drawings are to be deposited in the library of the Association for Applied Solar Energy, Phoenix, where they will be available for study and research. The winner of the competition, Peter Lee of Minneapolis, is to have his house built at the Sundown Ranch Estates near Phoenix (was this in existence before Evelyn Waugh wrote *The Loved One*?) where it is to become a 'living laboratory' for the study of solar heating and cooling and the centre of interest for the 1958 Symposium. It is to be hoped that his $2,500 first prize, coupled with the honour of having his design realised, will not blind him to the fact, stated by the Professional Advisor to the Association, that '. . . the real worth of the competition was not in establishing the five winners and choosing an architect to build a house, but rather in the impact of the concerted efforts, the sincere thinking and the willingness to use one's skill and talent to the common good of all mankind'. One wonders whether Mr. Lee's skill and talent, or anyone else's for that matter, could provide a solution for those regions of the world where heating matters—e.g., England.

THOMAS A. MARKUS [*A*]

The Cathedrals of Italy, by *J. W. Franklin*. 9 in. 280 pp. incl. illus. Batsford. 1958. £1 15*s*.

Churches and Cathedrals, by *Helen and Richard Leacroft*. (Puffin Picture Book No. 108.) 7 in. × 9 in. 31 pp. incl. illus. Harmondsworth: Penguin Books. 1957. 3*s*. 6*d*.

Mr. Franklin has divided his book into two main sections. In the first he uses the more famous cathedrals as a framework on which to develop a thoughtful analysis of church architecture in Italy, including Sicily, from its Early Christian origins through the ensuing fifteen hundred years. In the second he describes a selected 34 cathedrals in detail, sometimes adding little to guide-book notes, but in other instances making valuable comment. The index lists all the cathedrals, no less than 275 in number, with name, date and also province, a term which in the map is unfortunately confused with region.

Inevitably, perhaps, this make-up results in a certain lack of unity in construction, but this only reflects a characteristic of many of the cathedrals described. The photographs, most of which are by A. F. Kersting, can be commended for skilfully avoiding either over-dramatisation on the one hand and dullness on the other.

Mr. and Mrs. Leacroft deal in concentrated form with the building of churches and cathedrals in England from the introduction of Christianity in the third century A.D. to the present day, describing their development in style, architectural detail and method of building. Fully illustrated with excellent drawings, it is a remarkably informative three-and-sixpence worth in these days of costly book production.

R. E. E.

Kinderspielplätze, edited by *Gerda Gollwitzer*. 10½ in. 104 pp. incl. illus. Munich: Callwey. 1957. DM. 12.50.

The second of a new series of well produced and authoritative, but comparatively inexpensive, books sponsored by the German society 'für Gartenkunst und Landschaftspflege'—the first dealt with the landscaping of schools—is concerned with play places for children. Some forty examples, principally of course in Germany, although some from abroad are also included, are briefly described and very well illustrated with plans and photographs. Technical advice by experts is provided as well. It is most useful to have so much information on this vitally important subject gathered together in one volume.

J. C. P.

Planning Functional College Housing, by *Harold C. Riker.* (Teachers' College Studies in Education series.) 9 in. xii + 240 pp. New York: Teachers College, Columbia University. 1956. $4.50.

The author of this useful book, Dr. Riker, is not an architect but the Director of Housing at the University of Florida, U.S.A. His observations, therefore, should make salutary reading for both the architect and the University administrator.

Dr. Riker discusses in detail the siting, planning and construction of residential units of many different kinds. But, in comparing the relative merits of, say, the 'group-living' residence and the apartment type of plan in which two or four students live in a self-contained flat with its own bathroom and kitchen, he never loses sight of the fact that the most important aspect of the problem is that of providing an environment favourable to the cultural and educational development of the individual, not in merely satisfying his physical requirements.

As an administrator, of course, the author has a keen eye for practical matters and his comments on the defects in new residential halls in America are a pointed reminder of the responsibility of the architect for detailing and site supervision.

The main theme of the book, however, is a plea for more intelligent collaboration between the University authorities and the architect, for more thorough research into student and faculty requirements before a programme is agreed upon, and for more imaginative planning and design.

The book is well written and carefully arranged with a summary at the end of each chapter, useful footnotes and a comprehensive list of references. The architect could have wished for more diagrams (only six plans are included) and there are no illustrations of completed buildings.

T. H.

The Design of Structural Members, Part One, by *Harold T. Jackson,* 8¾ in. 176 pp. incl. illus. Architectural Press, 1957. £1 5*s.*

Of all the professions it is in architecture that we find art and science equally blended, and frequently the student of architecture has a bias to the aesthetic side rather than the mathematical nature of his work. Any assistance to those artistically inclined, who have difficulty with structural calculations, is to be welcomed. This book also helps those not *au fait* in presenting their knowledge at examinations.

Mr. Jackson's book begins with the fundamental definitions of the subject, and proceeds step by step to run through the syllabus for the design of structures up to the intermediate stage of the R.I.B.A. examinations.

The necessary information to design simple structures is explained by examples with model answers to R.I.B.A. examination papers. Problems calling for written answers are dealt with fully and appropriately illustrated with clear sketches. The author elucidates in simple terms and all stages of the mathematical processes are shown.

Some will use this book for reference, others for general study; all, because of its value, will look forward to Part Two.

F. S. ALEXANDER [*A*]

Merthyr, Rhondda and 'The Valleys', by *A. Trystan Edwards.* (Regional Book Series.) 8½ in. xxiv + 212 pp. + 26 pls. Robert Hale Ltd. 1958. 18*s.*

This is one of The Regional Books and, as such, is intended for general reading. The format is pleasant and the excellent photographs offer an attractive bait to architects and others with an inclination towards topographical reading. The author has had many years of local experience upon which to base his assessment of the relationship between Merthyr, Rhondda and 'The Valleys', and his judgment must be respected in spite of a somewhat sentimental leaning to the past.

Rhondda is now a borough in its own right and Trystan Edwards uses this fact to emphasise the days when, not so very long since, the Rhondda Fawr and the Rhondda Fach ran merrily through picturesque cwms almost devoid of inhabitants. It is unfortunate that the endeavour to recreate these earlier times has been made by the use of long quotations from Malkin. Better for the author to have acknowledged Malkin as the source of information, and then to have used his own personal style to convey that information.

With the working of iron came the important township of Merthyr Tydfil, the old industrial capital of Wales. Then followed the colliery towns, so well known as an essential part of South Wales. But the present inhabitants of the region are no longer clustered around the forges of the ironmasters, even if still somewhat under the shadows of the collieries. Their quite rapid advancement, however, has not produced any obvious liking for modern expression. The author himself regrets the passing of the old type of pithead gear; massive engineering structures which symbolised a colliery in a quite compelling manner. Perhaps he is right. He is certainly not wrong in emphasising the architectural predominance of the Nonconformist chapels, some with pedimented roof and columnated portico; many, for economical reasons, much more bare in appearance, but still decorous. The best of these chapels, now fighting against the ever-growing number of unneighbourly new glass-fronted buildings, must not be lost, lest we lose also the architectural expression of a powerful force in the history of Merthyr, Rhondda and 'The Valleys'.

Symbolism is obviously very near to the author's heart, and his book can at least remind us of the importance that character can give to this region and every other region. But the symbolism of that character must be good enough to pass on to posterity.

HARMAN A. BOWEN [*A*]

Lord Grimthorpe, by *Peter Ferriday.* 8¾ in. xiii + 230 pp. incl. illus. + 8 pls. John Murray. 1957. £1 1*s.*

It is customary among architects to deride —even to curse—the first Lord Grimthorpe; partly because he called himself an architect years before registration was brought in, and partly for the things he did to St. Albans Cathedral. Mr. Ferriday seems to dislike both the professional architects and, more intensely, this rich and generous amateur. His book has, therefore, an unpleasant flavour. It emphasises too much the continual and furious disputes which Sir Edmund Denison (as he was then) carried on with ecclesiastical or lay authorities and all who doubted his omniscience.

Nevertheless Lord Grimthorpe achieved two things. First, he gave us Big Ben; and secondly, he saved the life of St. Albans Cathedral. I put it like that because I think it is the proper judgment on his major work; and anyone who will go there with a quite open mind to look at the building will agree. They will find, as I did, an immensely long church (550 ft.), containing some very fine objects and dominated by a noble central tower built in re-used Roman bricks. The whole structure looks in perfect order, especially Lord Grimthorpe's west front. I confess I liked the design of this. Its proportions are admirable, and the scale is well maintained, except in the corner turrets which are top-heavy. The value of depth in reveals, the projection of buttresses and the black shadow of porches was well understood. This front really *ends* the nave; and it has a certain grandeur of *breadth.* It replaced one, heavily patched in brick, which contained a large dull perpendicular window and a central porch only. As Lord Grimthorpe was willing to pay for this reconstruction as well as—officially—to design it, he should be applauded. It is as good as many of Sir Gilbert Scott's monuments. I am fairly certain that the detail of the elevation was done by J. Oldrid Scott.

The treatment of the north and south transepts cannot have been designed by anybody of distinction. Their original charm was destroyed and monstrous windows inserted. One of these exactly resembles a colander. Perhaps Lord Grimthorpe gave his Clerk of Works, Mr. Chapple, a scribble with instructions to carry it out. Living architects will find it annoying not to be able to discover from the book really who made the working drawings of what.

A. S. G. BUTLER [*F*]

Christopher Wren, by *Nikolaus Pevsner.* Trans. by Enrica Labò. (Astra-Arengarium Collana di Monografie d'Arte.) 6½ in. 22 pp. incl. illus. + 64 pls. Milan: Electa Editrice. 1958. 6*s.* 6*d.*

From the British point of view, the chief interest of this little essay on Wren lies in the fact that, probably for the first time, an architect from these islands is included in a reputable series of books on artists published on the Continent.

Notes and Notices

NOTICES

Shapes and Sizes of Technical Literature. Following the amendment to B.S. 1311 postcards for use by members asking manufacturers to produce technical literature in accordance with the Standard have been reprinted to include reference to the A series of international paper sizes. These are available from the Secretary, R.I.B.A., on application, free, but please state the number required.

New Building Materials and Preparations. The attention of members is drawn to the fact that information in the records of the Building Research Station, Garston, Watford, Herts, is freely available to any member of the architectural profession, and architects would be well advised, when considering the use of new materials and preparations of which they have had no previous experience, to apply to the Director for any information he can impart regarding their properties and application.

Members and Professional Affixes. The Council's attention has been called more than once to the practice among some members of adding a string of letters of doubtful value to the affix indicating membership of the Royal Institute on their letter paper.

This is a matter in which the Council obviously cannot dictate to members, and must trust to their good sense. It should be obvious, however, that the affix of a chartered body of high standing is weakened in effect by the addition to it of a string of other mysterious designations some of which probably indicate no more than the payment of an annual subscription.

Luncheon and Tea Facilities for Members. Members are reminded that there is a self-service dining room on the second floor of the R.I.B.A. building where luncheons are served between 12 noon and 2 p.m. on weekdays except Saturdays. The dining rooms is open to members and Students. There is a 'Club' licence and drinks can therefore be obtained with meals. Members may bring guests.

Morning coffee and afternoon teas are served in the Members' Room on the first floor.

COMPETITIONS

New Technical College, Glasgow. The Corporation of the City of Glasgow (Education Department) invites architects registered under the Architects (Registration) Acts and resident in Great Britain to submit in competition designs for the new Langside College of Further Education.

Assessor: Mr. F. R. S. Yorke [*F*].
Premiums: £3,000, £2,000, £1,000.
Last day for questions: 30 September 1958.
Last day for submitting designs: 8 December 1958.

Conditions may be obtained on application to: The Town Clerk (Architectural Competition, Langside College), City Chambers, Glasgow, C.2. Deposit £2.

Wokingham County Infants' School. Last date for submitting designs: 15 December 1958.

Full particulars were published in the JOURNAL for August, page 355.

International Competition. A note has been received from the International Union of Architects that the conditions of the following competition have been approved by them:

Monument to Jose Batlle, Montevideo (Uruguay). Last day for submitting designs is 15 December for competitors living in Uruguay, Argentina, Brazil and Paraguay, and for competitors elsewhere, 30 December 1958.

Full particulars were published in the JOURNAL for July, page 323.

BOARD OF ARCHITECTURAL EDUCATION

R.I.B.A. Maintenance Scholarships in Architecture. The following R.I.B.A. Maintenance Scholarships have been awarded for the year 1958–59: An R.I.B.A. Howe Green 4th and 5th Year Maintenance Scholarship of £40 per annum to Mr. P. J. Britton of Colchester, Essex. An R.I.B.A. 4th and 5th Year Maintenance Scholarship of £60 per annum to Mr. R. Summers of London.

The Maintenance Scholarships previously awarded to the following candidates have been renewed: Mr. H. M. Cummings (School of Architecture, University of Manchester—R.I.B.A. Houston Maintenance Scholarship of £125 per annum). Mr. W. G. Marden (School of Architecture, The Polytechnic, Regent Street, W.1—R.I.B.A. Houston Maintenance Scholarship of £125 per annum). Miss E. Rowen (School of Architecture, Leicester College of Art—R.I.B.A. Houston Maintenance Scholarship of £125 per annum). Mr. D. G. Williams (Birmingham School of Architecture—R.I.B.A. Houston Maintenance Scholarship of £125 per annum). Mr. Nicholas Wood (Cambridge University School of Architecture—R.I.B.A. Houston Maintenance Scholarship of £125 per annum). Mr. D. S. Cartwright (Architectural Association, School of Architecture—The Ralph Knott Memorial Maintenance Scholarship of £45 per annum). Mr. R. E. Osler (School of Architecture, The Polytechnic, Regent Street, W.1—THE BUILDER Maintenance Scholarship of £75 per annum).

R.I.B.A. Final Examination. June 1958. The Final Examination was held in London, Leeds, Manchester, Newcastle, Edinburgh and Belfast from 18 to 27 June 1958. Of the 325 candidates examined, 140 passed as follows:—

Passed Whole Examination	93
Passed Part 1 only	47
	140

185 Candidates were relegated.

The successful candidates are as follows:—

Whole Examination

Ainscow: T. N.
Anson: T. H.
Barden: Kenneth
Barrie: James
Benstead: V. S.
Binner: H. E.
Brennan: Brian
Brown: David B.
Bruce: R. K.
Bryan: E. R.
Carter: O. F.
Castle: T. E.
Chamberlayne: Derek
Chapman: W. J. M.
Charles: Rupert
Clow: C. A.
Cox: G. E. F.
Crews: D. T.
Croghan: D. C.
Davis: J. N.
Dewhurst: D. R.
Faulkner: Kenneth
Flinders: Alec
Forsyth: J. I.
French: D. J.
Gibbs: R. H.
Gibbons: D. C.
Giddens: K. C.
Gilmore: W. J.
Grant: H. D.
Hall: J. F. Gomez
Hands: Raymond
Harris: Brian
Hearse: M. E.
Hermsen: A. J.
Herrick: J. A.
Hiscocks: B. G.
Holland: M. G.
Horsman: M. A.
Houchin: B. F. H.
Imrie: Andrew
Kythreotis: M. D. (Distinction in Thesis)
Lakin: J. M.
Lawson: I. F.
Lever: R. J. A.
Lewis: J. F. R.
Linton: E. I.
Lord: T. L. (Distinction in Thesis)
Masani: Mrs. D. D.
Mercer-Gibson: Neville
Metcalfe: Gordon
Moore: Jack
Murphy: Eamonn
Murphy: Terence
Murray: Kenneth
Nadodwalla: D. S.
Ninnes: A. B.
Noble: Harry
Paige: J. B.
Paine: A. C. (Distinction in Thesis)
Paterson: T. A.
Pearson: N. A.
Phillips: F. B.
Powell: A. R.
Ransley: F. D. D.
Reading: Lee
Riby: Harry
Roberts: A. F.
Rogers: M. C.
Rudrum: A. G.
Russell: Miss D. V.
Savage: S. K.
Savage: W. J. (Distinction in Thesis)
Stevens: R. A.
Stocken: Anthony
Swaine: R. C.
Sweeny: M. G.
Tanner: B. J.
Tham: L. B. K.
Thrower: V. J.
Toft: Eric
Tong: D. R.
Vallis: W. W. R.
Walker: L. J.
Walsh: K. R.
Wann: James
Ward: M. H.
Watson: Mrs. M. N.
Webster: D. G.
Whateley: Brian
Wheatley: J. R. G.
Whiffin: Mervyn
Willetts: G. G. J.

List of Successful Candidates who sat for Part 1 *only.*

Andrew: E. P.
Boyd: W. B. P.
Browning: N. G.
Brunskill: Alan
Bunyan: R. P.
Buss: R. M.
Charter: J. G.
Clark: N. C.
Collier: James
Coward: David
Cox: J. M.
Crawley: P. J.
Cuming: A. L.
Day: L. A.
De Vulder: J. E.
Duckworth: T. R.
Eyre: T. C.
Frost: K. J.
Garnett: D. J. R.
Groom: B. M. C.
Harman: G. A.
Haslam: E. N.
John: G. R.
Jones: R. A.
King: D. E.
Lovatt: John
McIlwaine: D. E.
March: R. J.
Moffatt: J. B.
Morrall: Alan
Mortimer: K. C.
Murphy: R. J.
Naylor: R. J.
Nelson: R. I.
Nowicki: L. J.
Owen: Leslie
Quarterman: Max
Sellors: G. W.
Sparrow: J. F. G.
Thom: C. W. V.
Walker: R. W.
Walters: G. F.
Webster: Hugh
Wells: Alec
Wells: Roy
Wheeler: M. K.
Woodiwiss: C. A. N.

R.I.B.A. Special Final Examination. June 1958. The Special Final Examination was held in London, Leeds, Manchester, Newcastle, Edinburgh and Belfast from 18–27 June 1958. Of the 316 candidates examined, 101 passed as follows:—

Passed Whole Examination	83
Passed Part 1 only	18
	101

215 candidates were relegated.

The successful candidates are as follows:—

Whole Examination

Adams: A. A. W.
Arnott: J. C.
Aylett: C. W.
Bacon: J. W.
Barfield: Bernard
Barnard: Kenneth
Bashford: N. H.
Bruce: William
Burrell: J. S.
Buttle: G. M.
Cade: W. B.
Campbell: V. O.
Clamp: Henry
Cook: H. A.
Corbett: V. L.
Coveney: J. E.
Cradick: H. G.
Cross: T. A.
Crossley: D. P. V.
Davy: D. K.

De Max: M. M.
Dinsdale: J. S.
Elwell: Thomas
Fairbanks: J. K.
Fellender: L. H.
Fenwick: G. F.
Fox: W. E.
Friend: R. C.
Fuller: D. W.
Girling: A. F.
Green: J. B.
Griffiths: J. M.
Hares: J. P.
Haydon: R. W.
Honey: A. E.
Hutchinson: E. G.
Johnson: V. F.
Jones: Albert F.
Jones: Kenneth E.
Jones: Peter S.
Jupp: K. E. J. A.
Kennedy: C. F.
Khan: Saidal
Kopernik-Steckel: K.
Leech: B. A. J.
Lewis: J. O.
Lightowler: H. C.
Lister: D. C.
Mackenzie: A. J.
Mackley: B. G.
McLaughlin: J. F.
MacLean: G. D.
McNay: D. A. B.
Mawhinney: J. A.
Mitchell: K. A.
Morgan: V. J.
Morrison: D. A.
Nash: P. J.
Norman: T. G. G.
Owen: D. R.
Parkinson: B. M. G.
Pearson: C. E.
Perrett: F. J.
Plaistowe: T. W.
Presswell: P. T.
Prew: Raymond
Pym: W. E.
Redmond: Leslie
Roberts: R. J.
Robinson: K. R.
Silvester: S. A. J.
Smith: Harold Shortland
Smith: John Shortland
Smith: Robert M.
Spratley: J. A. R.
Taylor: J. W.
Tranter: A. E.
Trezise: D. J.
Tsang: Nai Pok
Wallace: R. G.
Weir: W. D.
Wilkinson: L. J. A.
Young: J. R. S.

List of Successful Candidates who sat for Part 1 *only.*

Barber: C. E.
Crawford: K. H.
De Giorgio: Roger
Degler: Z. C.
De Kretser: Miss J. I. F.
Hall: C. S.
Heathcote: Michael
Jessamy: P. H.
Kennedy: James
Lantos: F. Z.
Leathart: Mrs. Vera
Mills: P. A.
Musset: Mrs. X. R.
Pilgrim: G. G.
Revels: S. McK.
Singleton: D. R.
Straton-Ferrier: J. M.
Welch: I. E.

ALLIED SOCIETIES

Changes of Officers and Addresses

Liverpool Architectural Society. Hon. Secretary, Harry Banister [*F*]. His address is 67 Rodney Street, Liverpool, 1, and not as given in the August JOURNAL.

North Wales Architectural Society. President, N. Squire Johnson, A.M.T.P.I. [*A*].

Nottingham, Derby and Lincoln Society of Architects. Hon. Secretary, Gordon Graham [*A*], 31 Priory Road, West Bridgford, Nottingham. *Derbyshire Branch*. Chairman, Bernard Widdows [*L*]. Hon. Secretary, R. W. Outhwaite [*A*], Messrs. T. H. Thorpe and Partners, 41 Friar Gate, Derby. *Nottinghamshire Branch*. Chairman, J. W. M. Dudding, F.I.L.A. [*F*]. Hon. Secretary, Gordon Graham [*A*] (for address see above).

South Eastern Society of Architects. Brighton District Chapter. Chairman, John B. Denman [*F*]. *Guildford District Chapter*. Chairman, G. I. C. Highet [*F*].

South Wales Institute of Architects. Eastern (Newport) Branch. Hon. Secretary, Arthur T. Beer [*A*], Victoria Chambers, Bridge Street, Newport, Mon.

West Yorkshire Society of Architects, Harrogate Branch. Chairman, Philip B. Nash [*A*].

Wilts and Dorset Society of Architects. President, Major A. D. Kirby [*F*].

York and East Yorkshire Architectural Society. Hull and District Chapter. Chairman, E. D. Mawer [*A*].

Institute of South African Architects, President-in-Chief, John Churchill Simpson [*A*].

Natal Provincial Institute of Architects. President, C. R. Fridjhon, 507 United Buildings, Smith Street, Durban, Natal, South Africa.

East Africa Institute of Architects. Hon. Secretary, N. S. Bean [*A*], Public Works Department, P.O. Box 662, Nairobi, Kenya, East Africa.

Royal Architectural Institute of Canada. President, Maurice Payette, F.R.A.I.C. Hon. Secretary, Professor John Bland, F.R.A.I.C., A.M.T.P.I. [*A*], 1552, St. Matthew Street, Montreal, P.Q., Canada.

Alberta Association of Architects. President, J. B. Bell, 312 Northern Hardware Building, Edmonton, Alberta, Canada.

Newfoundland Association of Architects. Hon. Secretary and Treasurer, Dr. E. A. Steinbrink, 30 Waterford Bridge Road, St. Johns, Newfoundland, Canada.

Province of Quebec Association of Architects. President, Gerard Venne, 20 rue St. Jean, Quebec 4, P.Q., Canada. Hon. Secretary, Edouard Fiset, also at 20 rue St. Jean.

Federation of Malaya Society of Architects. President, T. A. L. Concannon, F.S.A., M.T.P.I. [*F*].

GENERAL NOTES

Bartlett School of Architecture. Course on Preservation. The School has arranged a short course on the 'Preservation and Restoration of Historic Buildings' for practising architects and advanced students to take place from 24–27 September 1958.

The main features of the course will be a series of afternoon visits to important restoration works at present in progress in London, when the architects responsible will describe the work being done and answer questions. The morning sessions, to be held at University College, will be devoted to lectures on various aspects of the work of recording, preserving and restoring historic buildings by experts in the various aspects of the work. There will also be short sessions in the late afternoons.

The fee for the course is £3 10*s*. Students not resident in London must make their own arrangements for accommodation.

Further details and application forms are obtainable from the Secretary, Bartlett School of Architecture, University College, Gower Street, London, W.C.1. The closing date for applications is Wednesday, 10 September.

Franco-British Union of Architects. The 29th annual meeting and congress of the Franco-British Union of Architects will be held at York from 11–15 September 1958. The annual general meeting will take place at 9 p.m. on Friday, 12 September at the Royal Station Hotel, York.

Copies of the Agenda for the meeting and of the programme of visits to buildings of architectural interest in the district can be obtained from the Hon. Secretary, F.B.U.A., Mr. G. A. W. Brandreth [*A*], 41 Russell Square, London, W.C.1. A stamped addressed envelope should be forwarded with the application.

R.I.B.A. members who may wish to join the Union can obtain particulars of the qualifications for membership, etc., from Mr. Brandreth, or from Lieut.-Colonel H. P. Cart de Lafontaine [*F*], 3 Lisson Grove, London, N.W.1.

Seminar on 'Heating' for Teachers in Recognised Schools of Architecture. The R.I.B.A. is sponsoring a series of advanced courses for the benefit of teachers in Recognised Schools of Architecture at which specialists in their own field will give lectures to be followed by general discussion.

The first of such seminars will be on 'Heating'. Mr. A. Douglas Jones [*F*] has arranged for this course to be held at the Birmingham School of Architecture, on 22–24 October 1958. The lecturers will include Mr. J. B. Dick (Building Research Station); Mr. W. A. Allen [*A*] (Chief Architect, B.R.S.); Mr. L. J. Fowler (Head of Weatherfoil); Mr. K. Allerton [*A*] (County Architect's Department, Nottingham); and Mr. J. Bickerdike [*A*].

Rees Jeffreys Triennial Lecture. At the invitation of the Town Planning Institute, Mr. G. A. Jellicoe, M.T.P.I., P.P.I.L.A. [*F*], is giving the Rees Jeffreys Triennial Lecture on Thursday 9 October at 5.30 p.m., at the Institution of Civil Engineers, Great George Street, Westminster, London, S.W.1. (tea will be served at 5 p.m.). His subject will be 'Motorways—their Landscaping, Design and Appearance'. Admission is free.

Institute of Transport Award. Mr. Arthur Henderson, A.A.Dipl. [*A*] has been made an award by the Institute of Transport to carry out some special studies in the field of traffic engineering in Germany. This will occupy a period of up to a year. His address in Germany will be: c/o Professor Max-Erich Feuchtinger, Insel 13, Ulm/Donau, Germany.

The Architecture Club. A reception of the Architecture Club was held on Tuesday, 29 July at The Holme, Regent's Park, by kind permission of Bedford College. Members and their guests were received by the President, Viscount Esher, G.B.E. [*Hon. F*].

Truscon Travelling Scholarship. The Truscon Travelling Scholarship for the study of reinforced concrete work offered by The Trussed Concrete Steel Company Ltd., details of which were given in the JOURNAL for April, page 210, has been awarded to Mr. James B. Harris [*A*], a senior assistant architect with Messrs. Harry S. Fairhurst and Son [*F*/*A*] of Manchester.

Mr. Harris will be accompanied by Mr. P. E. Payne of the company's London office staff to whom a similar scholarship has been awarded.

Snowy Mountains Hydro-Electric Authority. Advisory Committee. The Authority, which is in charge of the hydro-electric and water diversion scheme being carried out in the Southern Alps of New South Wales—one of the biggest public undertakings embarked upon by Australia—has appointed an Advisory Committee on the aesthetics of major structures. The members are: Mr. Ivor L. Pinkerton, B.Sc., B.Eng., Engineer in charge of Civil Engineering Design, Snowy Mountains Hydro-Electric Authority; Professor Denis Winston, M.T.P.I., F.I.L.A. [*F*], Professor of Town and Country Planning, University of Sydney; and Mr. Donald Charles Maclurcan [*A*], of Messrs. Fowell, Mansfield and Maclurcan [*F*/*A*], Sydney.

The Committee is asked to review sketch proposals in the early stages of design, taking into consideration the aesthetic aspects of the larger structures, and advise the Authority on improvements to appearance which could be made before the main working drawings are commenced.

British Council Scholarship. Mr. David Shoesmith, B.A.(Cantab.) [*A*] has been awarded a British Council Scholarship to undertake graduate research at the University of Munich for the Academic Year 1958–59. He will study the developments in design of (*a*) theatres, concert halls and churches, i.e. buildings of the spirit, and (*b*) hospitals and medical buildings. Mr. Shoesmith received his architectural training at the University of Cambridge and the A.A.

Furniture Makers' Guild. Guild Mark Scheme. In order to enhance the prestige of the British furniture industry and encourage a high standard of quality the Furniture Makers' Guild has introduced a Guild Mark and Guild Certificate of Merit to be awarded to British-made furniture which, in the opinion of a Jury appointed to judge, attains an outstanding degree of excellence in craftsmanship, materials, functional purpose and design, and the furniture chosen will thus be stamped and recorded for posterity. Each calendar year will be regarded as a separate marking period and every Guild Mark will have a distinguishing feature appropriate to the marking period in which it was granted.

The Guild Mark Committee, from whom it is anticipated the Jury to judge the furniture will be drawn, comprises the following: E. H. Pinto, Lucian R. Ercolani, Sir Hugh Casson [*F*], Cuthbert Greig, Anthony S. Heal, Keon E. Hughes and Ernest D. Race.

Further information about the scheme is obtainable from The Clerk, The Furniture Makers' Guild, The Rectory, 29 Martin Lane, Cannon Street, London, E.C.4 (Mansion House 5728).

Furniture Design. The L.C.C. Technical College for the Furnishing Trades has recently been rebuilt and re-equipped and is prepared to offer facilities to a small number of designers for experimental prototype making. Designers would be expected to join the Design Research Group at the College and to attend as often as would be necessary to ensure the production of the prototypes.

Full particulars are obtainable from Mr. B. A. North, M.S.I.A., Lecturer in charge of Design Training, Technical College for the Furnishing Trades, Pitfield Street, London, N.1

R.I.B.A. Library Group. Annual General Meeting. At the Group's annual general meeting on 30 June the following re-elections took place: Chairman, R. E. Enthoven [*F*], Hon. Secretary, Kenneth S. Mills [*A*], and Hon. Treasurer, W. H. Allen [*A*].

R.I.B.A. Golfing Society. The annual match with the Royal Institution of Chartered Surveyors' Golfing Society was played on 24 July at Woking. The match ended in a tie.

R.I.B.A. Cricket Club

R.I.B.A. v. *Blue Circle*. 9 *July*. This match was played at Wimbledon. The Blue Circle batted first, and thanks to a century by H. G. Paddison (114), were able to declare at 209 for 7. The R.I.B.A. might well have passed this score if J. G. Batty (42) and D. L. Robinson (35) had not been run out, but as it was they were all out for 192. A. Marlow made 31 and P. Bynoe made 40. For Blue Circle, L. T. Lovell took 4 for 57.

R.I.B.A. v. Vitruvians. 23 *July*, at Elstree. The R.I.B.A. going in first were all out for 106 (R. Case 23). The Vitruvians went all out for runs and with the invaluable 42 made by R. Hill might well have achieved victory if it had not been for the excellent fast bowling of E. Gaskell (8 for 22). The result was a narrow win for the R.I.B.A. of four runs—with even fewer minutes to spare.

Obituaries

Edward Thomas Allcock [*Retd. F*] died on 6 February 1958, aged 87.

Mr. Allcock was articled to the late James Tait [*F*] of Leicester, and started practice in partnership with the late G. H. Barrowcliff [*L*] about 1897. From 1918–35 he was in practice on his own account at Loughborough and then went into partnership with Mr. R. M. H. Grieves [*L*] until his retirement in 1946.

Among his principal works were the early buildings for Loughborough Technical College; Carnegie Library, Loughborough; various schools in Loughborough and the county, including Shelthorpe Elementary School, Loughborough; extensions to the Freemasons Hall, Leicester; shop premises and local domestic architecture.

Mr. Allcock was a past member of the R.I.B.A. Council, a past President of the Leicestershire and Rutland Society of Architects, and had represented that body for many years on the Allied Societies' Conference. He had also been Surveyor to the Halifax Building Society (Loughborough Area).

Lieut.-General Sir John Brown, K.C.B., C.B.E., D.S.O., T.D., J.P., D.L., F.R.I.C.S. [*F*] died on 4 April 1958, aged 78.

We are indebted to Sir John's partner, Colonel A. E. Henson [*F*], for the following:

'He was born in Northampton and educated at Magdalen College School, Brackley. He was articled to the firm of C. H. Dorman and Son [*A*], and commenced practice in Northampton in 1904, eventually taking into partnership Mr. R. Yates Mayor [*L*] who died in 1917. As Sir John was then abroad on active service, the practice closed down. He resumed practice after the war, and in 1929 took into partnership his chief assistant, Mr. A. E. Henson. In 1934 the firm opened an office in London and continued to practice as Sir John Brown, A. E. Henson and Partners. Owing to illness, Sir John retired from the firm in 1954.

'He was responsible for the design of a large number of buildings in Northampton, London, Birmingham and Worcester, mainly hospitals, schools, cinemas, industrial buildings and offices, and several large country houses. In 1938 the firm were successful in winning the open competition for Friern Barnet Town Hall and Wood Green Civic Centre.

'Sir John had an outstanding career as a Territorial soldier. Joining the ranks of the 1st Volunteer Battalion, Northamptonshire Regiment, upon the creation of the Territorial Army, he had reached the rank of captain upon the outbreak of war in August 1914. He served with his regiment in Gallipoli, was promoted Lieut.-Colonel in command, and served in Egypt and in the Desert Campaign when he was awarded the D.S.O. and mentioned in dispatches. He was wounded at the Battle of Gaza and at the end of hostilities was discharged as medically unfit. Upon his return to civilian life he was made a Deputy Lieutenant of Northamptonshire, and also a J.P.

'Having recovered his health, he rejoined and commanded the 4th Northants. Regt. T.A. in 1920, and in 1923 was promoted to command the 162nd (East Midland) Infantry Brigade T.A. as Colonel Commandant, being the first Territorial officer to reach this rank. After three years, he retired, but several years later, in 1937, the then War Minister, Hore-Belisha, recalled him and promoted him to major-general rank as Deputy Director-General of the Territorial Army. Upon the outbreak of war in September 1939, he was appointed Deputy Adjutant-General, War Office, with the rank of Lieut.-General, in which capacity he advised upon and created the Home Guard. He later became Director-General of the T.A. and Inspector-General of Army Welfare.

'He was awarded the C.B.E. in 1923, the C.B. (Civil) in 1926, and in 1934 the K.C.B., and had been given the Freedom of the Borough of Northampton. Upon retirement in 1941, he became National Chairman of the Council of Voluntary War Work.

'The welfare of the ex-service men and women was one of Sir John's greatest interests, and he was one of the small number of officers who in support of Field-Marshal Lord Haig formed the "British Legion". After Chairmanship of the Northampton Branch, he was elected President of the North Midlands Area, then became member of the National Executive Council, and finally National Chairman in which capacity he served for four most critical years from 1930–34 and upon retirement was elected life member of the Council. At the annual Whitsuntide Conferences, the singing of "John Brown's Body" by the 2–3,000 delegates has still remained to this day. Elected Chairman of the British Empire Service League, and also to the International F.I.D.A.C. Organisation, Sir John visited almost every country in the Commonwealth, and indeed the world, and became the leading authority on the ex-service man's problems both here and in America, where he was elected a Life Member of the American Legion, also a "Kentucky Colonel".

'Perhaps his greatest work was for the British Legion, in which he proved himself to be a great leader of men. Captain Liddell Hart, the distinguished military historian, referred to him as "A character within a character", but Sir Ian Fraser in a letter to THE TIMES gives a more apt description: "He spoke English with the strongest Northamptonshire accent, which surprised the Army Council but endeared him to the rank and file. There never was a more unorthodox general or a more beloved figure among his men." '

Percy Norman Brown [*L*] died on 17 January 1958, aged 74.

Mr. Brown was educated at Huddersfield Technical School and started practice in Holmfirth in 1910. In 1946 his son, Mr. W. D. Brown [*A*], was taken into partnership and three years later the practice was moved to Honley.

Mr. Brown had been responsible for work on many council estates, including some at Holmfirth, as well as private housing and factories.

His son, who is now continuing the practice, writes:

'My father was one of nature's gentlemen, never ruffled, with endless patience, kind and sympathetic. His work was also his hobby. He enjoyed it, I should imagine, more than anything else, though he had many other interests. He had been president of Holmfirth Rotary Club, of which he was still an active member, and the words of the Minister of Holmfirth Wesley Methodist Church, copied from the Press, indicate his interest within the Church: "In Methodism a lot of work was given to laymen, and many gave a lot of time and business ability to such work. Mr. Brown had filled every office open to a layman in the Church and in the circuit. In his work he was a man of thoroughness and nothing slipshod or tawdry would ever be sanctioned by him, and the Minister was sure this also applied to his work for the Church."'

Ian Caldwell [*L*] died on 22 December 1957, aged 52.

Mr. Caldwell was educated privately and at London University, and served his articles with Messrs. J. F. Curwen and Son [*F*] of Kendal. Between 1929 and 1934 he was an assistant in several well-known London firms and senior assistant in the Architect's Department of Westminster Bank. In 1934 he became a partner in the firm of Curwen and Caldwell [*F*] in Kendal. In 1942 he took up the appointment of research assistant for the Association for Planning and Regional Reconstruction and a year later became assistant planning officer for Winchester City Council. From 1944–49 he was chief planning assistant with the Lincoln and District Joint Planning Committee and finally became a partner in the firm of Davis and Caldwell in Lincoln.

Mr. Caldwell had been a deputy diocesan surveyor for Carlisle Diocese, and diocesan surveyor for parts of Lincolnshire; architectural consultant to the National Trust for Cumberland and Westmorland; a member of the architects' panel for Cumberland and Westmorland Joint Planning Committee; and architect to the Lake District Cottage Housing Society.

Charles Emerson Clouting [*A*] died on 17 May 1958, aged 77.

His daughter, Miss Grace Clouting writes:

'Mr. Clouting was articled to Messrs. MacAlister and Son [*F*] of Cambridge and was afterwards with Mr. A. Marshall [*A*] of Nottingham, and at Calne, Wiltshire. While at Calne he prepared plans for the re-drainage of Lord Lansdowne's mansion and estate. He subsequently joined the Ancient Monuments Department of H.M. Office of Works, where his first duty was to prepare plans for the re-drainage of Hampton Court Palace.

'He joined the Westminster Rifles in the early days of the 1914–18 war, was commissioned in the Buffs in 1915, and served in France for the duration of the war. He won the M.C., and was promoted to captain, with the acting rank of staff major.

'After demobilisation he was put on the permanent staff of the Office of Works and supervised the upkeep of palaces and ancient monuments in England, and from 1930–35, in Scotland. He was associated with most of the preservation work on Hadrian's Wall undertaken by H.M.O.W.

'His private work included the restoration of Yates Court, Mereworth, Kent—a 15th-century mansion owned by Lord Torrington, which was badly infested with death-watch beetle. He also did a considerable amount of restoration work for Lord Brocket, both at Bramshill, near Reading, and at Brocket Hall in Herts.

'During the last war he was responsible for the safety of the royal palaces, and their Majesties' "shelters", etc., as well as for many other top secret jobs.

'After his retirement from M.O.W. in 1946, five years after the official retiring age, he undertook for the Colonial Office the making of a survey and plans for the restoration of Nelson's Harbour, Antigua, although these were not proceeded with.'

George Lister Coates [*Retd. L*] died on 31 March 1958, aged 78.

Mr. Coates received his training in the office of Mr. Lister Coates [*A*] of Halifax. After a short time in Sudbury, Suffolk, he started practice in Bury St. Edmunds in 1919 in partnership with Mr. A. Ainsworth Hunt [*L*]. His son, Mr. H. Lister Coates, joined the firm of Hunt and Coates as a partner in 1936 and continued the practice after his father's retirement in 1948. The firm has since been amalgamated under the style of Hunt, Coates, Scott and Stamp [*L*].

Mr. Coates's work had included much rural council housing throughout Suffolk and also diocesan schools.

He joined Bury St. Edmunds Town Council in 1935 and was elected Mayor in 1946. He was one of the earliest members of Bury Rotary Club and a past President.

George William Eccles [*L*] died on 15 March 1958, aged 42.

Mr. Eccles was articled to Messrs. Brierley, Rutherford and Syme [*FF*] of York. He was assistant to architects in Chesterfield and Doncaster, and to Messrs. Thwaites, brewers, Blackburn, and Messrs. Hammonds, brewers, Bradford, before becoming chief architect to Messrs. Greenhall Whitley and Co., Ltd., brewers, St. Helens, in 1948.

Among the licensed premises and hotels for which he was responsible were the Park Hotel, Speke, and the 'Dove and Hive' residential hotel, Liverpool. He also designed the oak screen and altar rails for Weston Church, Yorkshire, and the chapels, baptistry and furnishings in Low House Church, St. Helens.

He was an active worker for education, and was a member of the Board of Governors of the Notre Dame High School, St. Helens.

Eustace Herbert Edwards, A.R.I.C.S. [*L*], died on 7 February 1958, aged 69.

Mr. Edwards received his training in the office of Messrs. James Young and Sons of Bradford. From 1925 until his death Mr. Edwards was architect and surveyor to Messrs. J. Emsley Ltd., of Bradford.

Ronald Fielding Dodd [*F*] died on 30 April 1958, aged 67.

Mr. Kenneth A. Stevens [*F*], partner in the firm of R. Fielding Dodd and Stevens, writes:

'The sudden death of Mr. R. Fielding Dodd has left a very real gap in the profession's representation in Oxford, for although he has not been in active practice for some eight years or so he has since been busily engaged as a consultant architect, firstly with the Oxford Regional Hospital Board and later as an independent consultant to certain of the Oxford Colleges and the University Chest.

'R.F.D., as he was known to so many of his friends and associates, was a man of considerable talent and outstanding personality. His ready wit and human understanding endeared him to all who worked with him, from his partners and staff to the builder's foreman and "bricky" on the job.

'He was educated at King William's College, Isle of Man, and received his architectural training under Professor L. Budden at the Liverpool School of Architecture where he obtained his diploma.

'He served in the First World War as an officer in the Machine Gun Corps and in 1924, following a short period of employment with two Oxford firms of architects, set up his own practice in Oxford, and by the early 30's had built up a successful and varied practice specialising in university, school and hospital design.

'In 1928 he was commissioned, with the late Sir Herbert Baker, R.A., as consultant, to design the new buildings for St. Peter's Hall, Oxford. It was about this time, too, that he was appointed as Architect to Stowe School, Buckinghamshire, where he was engaged on building works for a number of years.

'He was responsible for the Wingfield-Morris Hospital (now the Nuffield Orthopaedic Centre), new buildings at the Acland Home and Warneford Hospital, and was associated with the Ministry of Works during the early years of the last war in the design of the Churchill Hospital where he introduced a number of original ideas, some being incorporated in standardised designs for later war emergency hospitals. [He had also been a member of the R.I.B.A. Hospitals Committee.]

'He was keenly interested in the old buildings of Oxford and was consulted by many of the Colleges on questions of restoration and adaption. In 1935 he was employed by the University Chest on the complete reconstruction of the interior of the Sheldonian Theatre following the discovery of considerable damage by death-watch beetle and was later responsible for the reconstruction of the Library at Oriel College and the Chancel of the University Church following devastation by fire.

'During the eighteen months or so before his death he had been actively engaged on College and University Building Surveys in connection with the Oxford Historic Buildings Appeal.'

Phiroze Jijibhai Khambata [*A*] died on 3 March 1958, aged 46.

Mr. G. B. Kshirasagar, Secretary (Retired) of the Department of Architecture at the Sir J. J. School of Art, Bombay, writes:

'Mr. Khambata was educated at the Elphinstone College, Bombay, where he made his mark as a sportsman, and he received his architectural training at the Sir J. J. School of Art. He was elected a member of the Indian Institute of Architects in 1937 and a Fellow in 1949, and he became an Associate of the R.I.B.A. in 1945.

'He started private practice in partnership with Mr. S. M. Dhurandhar and Mr. V. R. Kothare and took over the firm "Architectural Service". On the dissolution of the partnership in 1954 he had continued to practise on his own account.

'Mr. Khambata had been a studio assistant and later visiting lecturer at the Sir J. J. School of Art. He was examiner in architecture on the Board of Higher Art Examinations of the Government of Bombay and on the panel of the Bombay University Degree Examinations in Architecture and also of other Indian universities. He was a Wittet Memorial Scholar and a prominent member of the Council of the Indian Institute of Architects—he rendered yeoman service while on the I.I.A. Journal Committee when the Journal was in a critical condition and more particularly as Honorary Secretary of the R.I.B.A. Examination Board in India.

'He commanded a good practice and at the time of his death he was engaged, among other building schemes, on the extensions to the Victoria Jubilee Technical Institute, Bombay, and the Saugor University Buildings Scheme, Madhya Pradesh.'

Other works included the Leonard Theological College and the Science College of the Training Institute for Women at Jabalpur; the S.B. City College, G.S. College of Economics and Commerce, Jain Mandir, handloom cloth market and model mills, all at Nagpur.

'Mr. Khambata had a kind and charitable disposition and was always ready to help and oblige. He was a capable organiser, most methodical and quick in disposal. He leaves behind a large circle of friends who will miss his quiet and genial presence. By his premature death the Indian Institute of Architects have lost a stalwart member, architectural education an experienced and principled educationalist and Bombay a conscientious and able architect, with a high sense of justice, loyalty and fair play.'

Miss Margaret Smith McCulloch [*A*] died on 25 April 1958, aged only 30.

Mr. Edward S. Carden [*L*] writes:

'Miss McCulloch attended the Glasgow School of Architecture and was awarded the Bellahouston Travelling Scholarship (touring Denmark and other European countries). She gained the Diploma in 1951 and subsequently was employed in the architectural departments of first the City of Glasgow and latterly the Corporation of Paisley.

'She was a promising young architect, particularly talented in interior decoration, and she had a likeable personality which endeared her to all her colleagues.'

John Charles Amory Teather [*Retd. F*] died on 26 December 1957, aged 83.

His partner, Mr. Colin Hadfield [*L*], has supplied the following notes:

'Mr. Teather received his training in Sheffield and later became principal assistant to Messrs. Gibbs and Flockton [*FF*] of Sheffield. In 1911 he became a partner in the firm when the title was changed to Gibbs, Flockton and Teather.

'The partnership was dissolved in 1923 and he practised on his own account in Sheffield as J. Amory Teather. In 1945 he entered into partnership with Mr. Colin Hadfield under the style of Teather and Hadfield, and retired from active work in 1950. Mr. Hadfield is continuing the practice.

'As a partner of Gibbs, Flockton and Teather, he designed the Applied Science Department of Sheffield University. In later years his work included many Methodist and Anglican churches. He took a keen interest in all church architecture. Other works included cinemas and schools, commercial and industrial buildings and private houses.

'He was President of the Sheffield, South Yorkshire and District Society of Architects and Surveyors in 1936.'

Archibald Buller West [*F*], senior partner in the firm of West and Pritchard [*F/A*], died on 31 December 1957, aged 72.

One of his partners, Mr. F. T. Pritchard [*F*] writes:

'"A.B." as he was known to his many friends, was educated at Abingdon School and served his articles in the office of his father, Mr. J. G. T. West [*F*]. After working in the Colonial Service in many parts of the world he ultimately returned to practice in partnership with his father in Abingdon. [He practised on his own account from 1930–45, then in partnership with Mr. F. T. Pritchard, who joined him in 1945 and with his eldest son Mr. D. B. West [*A*] who was taken into partnership in 1955.]

'He had been concerned with the design of a very wide variety of buildings including private residences, housing, business and industrial premises, schools, hospitals, churches and social buildings. [Among these were the Wantage Cottage Hospital; Boxhill School, Abingdon, and the science block at Abingdon School; a central warehouse and garage for the Co-operative Society at Oxford; local authority housing in Berkshire; the Coronet Cinema, Didcot; and Holyoake Hall (social premises) at Oxford.]

'He was also keenly interested in the affairs of his provincial association—the Berks, Bucks and Oxon A.A.—of which he had been at various times both Vice-President and Secretary.

'As a young man he had been a member of the county Yeomanry, and during the First World War he served with Colonial Forces and the 60th Rifles. During the Second World War he was A.R.P. controller in Abingdon. His interest in the military life was reflected in rifle shooting at which he was extremely proficient, shooting for his county small-bore team only three days before his death. Whenever he could he spent a week in the summer at Bisley, usually with considerable success.

'He was Chairman of the Borough Justices, a prominent Freemason and a Rotarian, and took great pleasure in helping many local undertakings and charities, always in the most unobtrusive way, for he was a very modest man.

'I, personally, had been associated with him for some 30 years, originally as pupil assistant and latterly as his partner, and had always regarded him as a guide, philosopher and friend. He had a quiet way and a particularly keen sense of humour, and he never appeared to be too busy to listen to and advise anyone who was in need of counsel. His ability to get on with people and get the best out of them, combined with an outstandingly retentive memory and immense and varied experience, brought him the regard of all with whom he came into contact, and particularly of his many builder friends with whom he enjoyed co-operation in the fullest sense of the word.

'Although he had reached an age when many men have sought the ease of retirement, his practice and other activities meant so much to him that he had never even discussed the possibility. The amount of work he got through, right up to his last day, could well serve as an example to many considerably his junior.

'The practice will continue under the style of West and Pritchard in the partnership of myself and his son.'

Members' Column

This column is reserved for notices of changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and personal notices other than of posts wanted as salaried assistants for which the Institute's Employment Register is maintained.

APPOINTMENTS

Mr. G. R. D. Fryer, Dip.Arch.(Birm.), S.P. Dip. [*A*], has been appointed Planning Director of the Township of York and his address is now York Township Planning Board, 2700, Eglinton Avenue West, Toronto 9, Ontario, Canada.

Mr. R. S. Hignell [*A*] has taken up the appointment of Lecturer in the Department of Architecture at the Nigerian College of Arts, Science and Technology, Zaria, Nigeria.

Mr. M. J. Hislop [*A*] has taken up the appointment of Architect to Imperial Chemical Industries, Ltd., Severnside Works, Prudential Buildings, Wine Street, Bristol, 1, where he will be pleased to receive trade literature.

Mr. Zahir-ud-deen Khwaja [*A*] has been appointed Chief Town Planner and Architect to the Karachi Development Authority and his address is now Karachi Development Authority, Kingsway, Karachi, 1, Pakistan, where he will be pleased to receive trade literature.

Mr. Frank A. B. Preston, M.T.P.I., F.R.I.A.S., F.R.S.E. [*L*], has been appointed a member of East Kilbride Development Corporation. Mr. Preston, who is Honorary President of the Scottish National Housing and Town Planning Council, retired recently from the general managership of Glenrothes Development Corporation.

PRACTICES AND PARTNERSHIPS

The name of the firm of **H. J. Ashwell and Associates** has been changed to **Ashwell, Dunn and Associates.** The partners are **Mr. H. J. Ashwell** [*F*] and **Mr. A. A. Dunn** [*A*].

Messrs. Buxton and Truscott [*A*] of St. Austell, Cornwall, have taken over the practice of **Mrs. Sheila Tribe** [*A*] at Newquay, under the title of **Sheila Tribe, Buxton and Truscott.** The style of the firm at Public Rooms, Truro Road, St. Austell, will remain Buxton and Truscott.

Mr. Stanley B. Dawes [*A*] has commenced general practice at 2 Naseby Road, Dagenham, Essex (Dominion 1323) and at 443 High Road, Ilford, Essex (Ilford 3639).

Mr. Christopher Gotch [*A*] has resigned his appointment as Chief Assistant Architect to the Hertfordshire County Council to commence practice under the style of **Christopher Gotch and Associates** at 160 Ballards Lane, Finchley, London, N.3 (Finchley 0480), where he will be pleased to receive trade literature, etc.

Mr. James F. McLean [*A*] and **Mr. Alan C. Kirkman** [*A*] have formed a partnership under the style of **The West Indies Design Group** at 12 Renfrew Road, Kingston, 10, Jamaica, where they will be pleased to receive trade literature.

Mr. J. Watson Ritchie [*F*] has retired from the firm of **Carver, Symon and Ross.** The practice will be continued by the remaining partner, **Mr. Donald Ross** [*F*] under the same style and at the same addresses in Dundee, Arbroath, Brechin and Montrose. Mr. Ritchie has entered into partnership with **Mr. Ian Brown Kinnear** [*A*] under the style of **Ritchie and Kinnear** at 1 West Bell Street, Dundee.

Mr. Alun Roberts [*A*] and **Mr. David E. Humphreys** [*A*] have become associates in the firm of **T. Alwyn Lloyd and Gordon** [*F/A*], of 6 Cathedral Road, Cardiff.

Mr. Gerald R. Smith [*A*] has commenced private practice at 9 Dunluce Street, Larne, N. Ireland (Larne 2737).

Messrs. Thomas and Morgan and Partners [*AA*] of 23 Gelliwastad Road, Pontypridd, have taken into partnership **Mr. M. Rhys Griffiths** [*A*], who has resigned the appointment of Regional Architect (Northern), P.W.D., Ghana.

Mr. R. J. A. Wilson [*A*] has commenced practice on his own account at 15 King Street, Hereford, where he will be pleased to receive trade literature.

CHANGES OF ADDRESS

Mr. Derek A. d-G. Abbott's [*A*] address is now c/o Department of Planning and Architecture, Basildon Development Corporation, Gifford House, Basildon, Essex, and not as given in the August JOURNAL.

Mr. Kenneth Bayes [*F*] and **Mr. Alexander Gibson** [*F*] of **Design Research Unit** have changed their address to 37 Duke Street, London, W.1 (Hunter 1681).

Mr. A. J. Bloomfield [*A*] has changed his address to 105 High Street, Billericay, Essex.

Mr. Michael J. Briggs [*A*] has changed his address to 51 Langleys, Kingswood, Basildon, Essex.

Mr. Lindsay Bullivant [*F*] has changed his address to The Grove, Chalford, Glos. (Brimscombe 2022).

Mr. Norman A. Butterworth [*A*] has changed his address to P.O. Box 59, Kuwait, Persian Gulf.

Mr. James D. Colchester [*L*] has changed his address to 2 Mill Road, West Worthing, Sussex, where he will be pleased to receive trade catalogues, etc.

Mr. Edward Connolly [*A*] has changed his address to Lyndhurst, 7 Brunswick Hill, Reading (Reading 55677).

The Swansea address of **Messrs. Cook, Rees and Tagholm** [*F*] is now Barclays Bank Buildings, Wind Street, Swansea. The telephone number remains Swansea 50719.

Mr. Alan S. Craig [*A*] has changed his address to c/o 25 Gloucester Place, London, W.1. (Welbeck 0288).

Mr. Edward Craven, M.T.P.I. [*A*], has changed the address of his Lincoln office to 11a St. Mary's Street, Lincoln. The telephone number remains Lincoln 10671.

Mr. D. A. Dance [*A*] has changed his address to c/o Messrs. Norman and Dawbarn, 15a Constant Spring Road, P.O. Box 33, Kingston 10, Jamaica, B.W.I.

Mr. Peter Denney [*A*] has changed his address to 2 Walnut Tree Road, Dagenham, Essex.

The Rev. Arthur J. Dobb [*A*], who was ordained to the deaconate of the Church of England in the Diocese of Manchester on 1 June 1958, has changed his address to c/o The Vicarage, 174 Chorley New Road, Bolton, Lancashire.

Mr. Peter Duffield [*A*] has changed his address to Lot 8, Crystal Street, Crystal Bay, Newport, New South Wales, Australia.

Mr. Christopher Gotch [*A*] has changed his address to 46 The Pryors, East Heath Road, Hampstead, London, N.W.3 (Hampstead 5396).

Mr. Owen J. Howell [*A*] has changed his address to c/o Federal P.W.D. Headquarters (Architects Section), Lagos, Nigeria, West Africa.

Mr. James Crosby Howlett [*A*] has changed his address to 9 Myddylton Place, Saffron Walden, Essex.

Messrs. J. Thomson King and Partners (J. Thomson King [*A*], **Thomas B. Main** [*A*] and **Eric D. Ellison** [*A*]) have changed their address to No. 5 La Belle Place, Glasgow, C.3 (Douglas 1308–9).

Mr. S. R. King [*A*] has changed his address to c/o Messrs. Booty, Edwards and Partners, P.O. Box 65, Brunei Town, Brunei, Borneo.

Mr. S. Kruss [*A*] has changed his address to 601–2 Pier House, Heerengracht, Cape Town, South Africa.

Mr. Michael Laird [*A*] has changed his address to 65 Castle Street, Edinburgh 2.

Mrs. Joyce E. Lloyd [*A*] (née **White**) has changed her address to 1 East Wing, Marston House, near Frome, Somerset.

Mr. David and Mrs. Doreen Oakley [*AA*] have changed their address to 27 Prince Park, Hemel Hempstead, Herts.

Messrs. Purcell and Johnson [*FF*] are opening a new branch office on 1 October at 4 Bene't Street, Cambridge, where their Chief Assistant, **Mr. Anthony Rossi** [*A*] will be pleased to receive trade catalogues.

Messrs. W. H. Saunders and Son (John H. Saunders [*L*] and **Richard W. Leggatt** [*A*]) are changing the address of their Southampton office on 15 September 1958 to 22 Brunswick Place, Southampton (Southampton 20302–3–4. The addresses of the firm's other offices will remain unchanged.

Messrs. Selvaratnam and Monk [*AA*] have changed to new offices in Macan Markar Building, Prince Street, Fort, Colombo 1, Ceylon.

Mr. J. Douglas Smith [*A*] has changed his private address to 199 Inglewood Drive, Moore Park, Toronto 7, Ontario, Canada.

Mr. Donald Tucker [*A*] has changed his address to 23c Broadwater Down, Tunbridge Wells, Kent. (Tunbridge Wells 2824.)

Messrs. White and Traviss [*F/L*] have changed their address to St. Pauls Chambers, 19–23 Ludgate Hill, London, E.C.4 (City 1812–3–4).

Mr. Laurence Arthur Williams [*A*], until recently of Messrs. B. Hallwood Lingard and Williams [*F/A*], North Wales, has now moved to 22 Tyla Teg, Pantmawr Garden Village, Whitchurch, Cardiff, where he will be pleased to receive trade literature. No callers without appointment, please.

PRACTICES AND PARTNERSHIPS WANTED AND AVAILABLE

Associate, Dipl.Arch. (33), senior assistant architect in well-known architects' office, with experience of small and large contracts, seeks position leading to partnership in small practice in Hampshire–West Sussex–Berkshire area. Some capital available. Box 70, c/o Secretary, R.I.B.A.

Fellow with small but well-established practice in the City seeks amalgamation with similarly placed member, or a partner with good connections. Box 71, c/o Secretary, R.I.B.A.

Associates (husband and wife), returning to England in September 1958, wish to purchase small practice. Capital available. Box 73, c/o Secretary, R.I.B.A.

Associate (29), with wide experience in private practice at home and overseas, seeks partnership or position leading to one in a busy practice, preferably in south-east or south-west England, possibly with a view to taking over from retiring principal. Keen, hardworking. Some capital available. Box 75, c/o Secretary, R.I.B.A.

Associate, at present in responsible post, is unable to cope with rapidly growing private work, principally in London, and wishes to form an association with member in established practice with view to amalgamation. Some capital available. Box 76, c/o Secretary, R.I.B.A.

Associate (36) with nine years' varied experience in private practice, requires partnership, or responsible post leading shortly to partnership, in progressive office. South of England preferred. Capital available. Box 77, c/o Secretary, R.I.B.A.

Fellow, B.A.(Arch.), seeks partnership with established or busy firm. Would be particularly interested in London or Aldershot areas. Capital available. Box 80, c/o Secretary, R.I.B.A.

Associate (38) with considerable experience in previous senior salaried position but at present carrying on small private practice in north Birmingham, would welcome possibility of joining up or having association with other established firm. Box 81, c/o Secretary, R.I.B.A.

Associate wishes to dispose of a well-established general practice in south-east Lancashire area. Good, well-equipped office accommodation. Small staff available. Box 83, c/o Secretary, R.I.B.A.

Exeter-Plymouth. Associate, with wide progressive office experience, local contacts, and capital available, wishes to acquire practice or partnership offering scope for extensive development. All communications treated in strict confidence. Box 84, c/o Secretary, R.I.B.A.

Associate (35), wishes to purchase a practice or partnership with principal contemplating gradual retirement. Preferably southern counties or coastal area, but prepared to consider any opportunity in this country or abroad. Advertiser is keen, energetic, and has excellent all-round experience both in this country and overseas. Box 87, c/o Secretary, R.I.B.A.

WANTED AND FOR SALE

Wanted. A copy of *Notes on the Life and on the several imprints of the work of Thomas Rickman, F.S.A.*, by Thomas Miller Rickman, F.S.A., 1901. Also a copy of *An attempt to discriminate the styles of architecture in England from the Conquest to the Reformation*, by Thomas Rickman, preferably Edition I. Box 74, c/o Secretary, R.I.B.A.

For Sale. Fellow wishes to dispose of several framed and original water colours by Brangwyn and Walcot; an imperial size pine drawing-board with two mahogany T-squares; and a double elephant size mahogany T-square. Box 78, c/o Secretary R.I.B.A.

For Sale. Stanley tachometrical quick set level, tripod, staff, ranging rods and chain; also combined plan cabinet and bookcase. For details and price please write to Box 85, c/o Secretary, R.I.B.A.

For Sale. Gilt gesso niche (Italian) with curtain at the arch at back, thought to have been a Sacrament House for Reservation, and an elaborately enriched majolica frame, five feet in diameter, in full colours, both of which might be suitable for a new Catholic church. Box 86, c/o Secretary, R.I.B.A.

ACCOMMODATION

Provincial member requires accommodation address and use of room for interviewing purposes approximately once a fortnight. Preferably in the West End area. Box 67, c/o Secretary, R.I.B.A.

Member with surplus office space would be willing to share with firm of architects or surveyors requiring small branch or accommodation address in South Hampshire. Full office facilities available. Box 72, c/o Secretary, R.I.B.A.

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Young member expects to move in December 1958 to a house in Winchester, Hants. The house stands in a good position, and has a small drawing office attached. He wishes to contact any experienced member practising in the area with regard to sharing accommodation, work, etc. Box 82, c/o Secretary, R.I.B.A.

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1850

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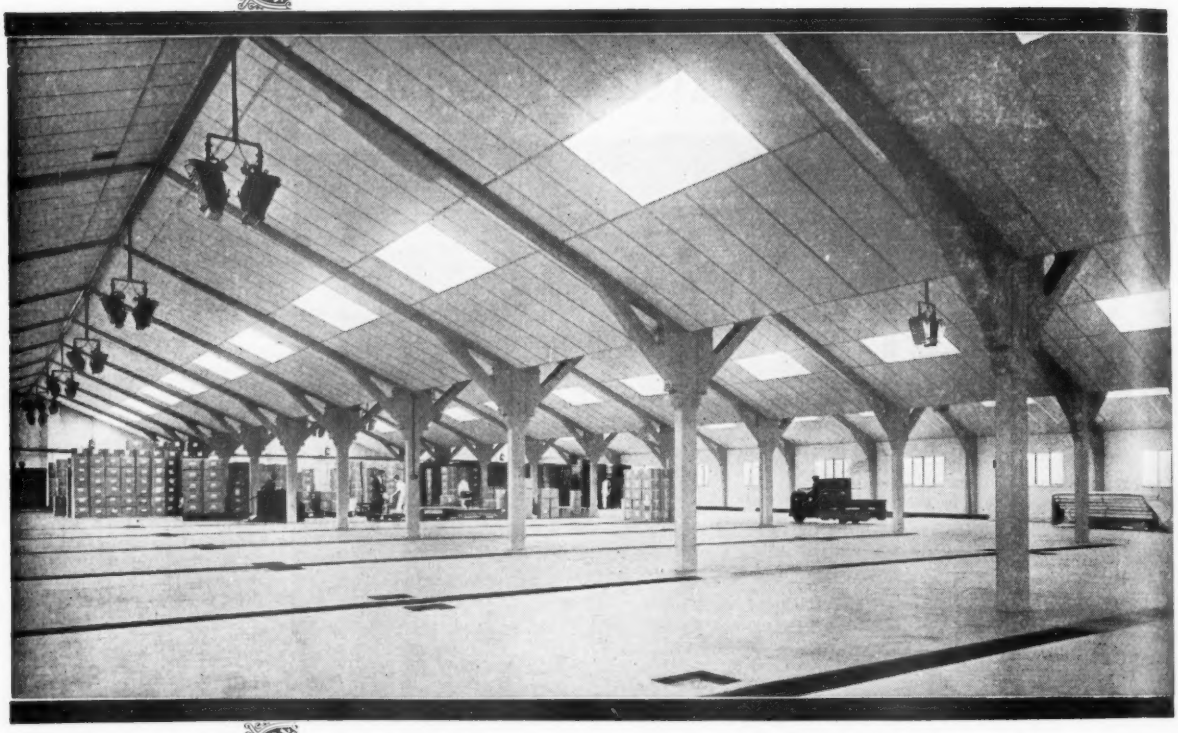

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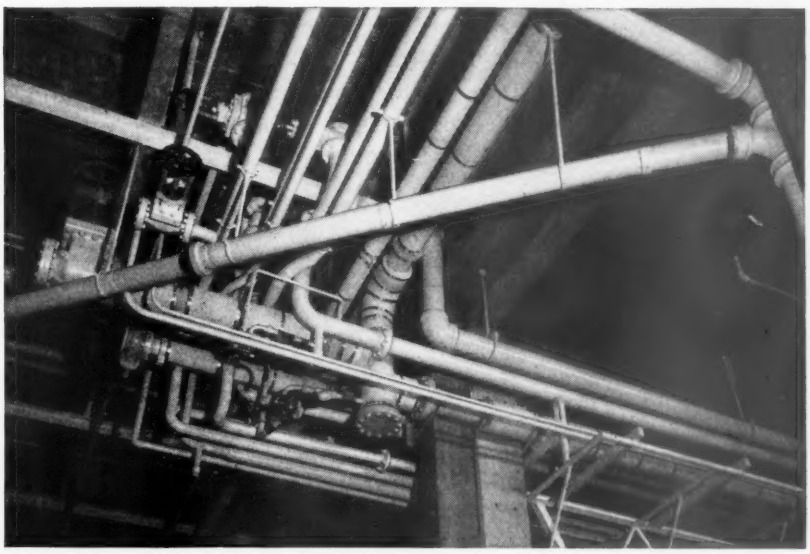

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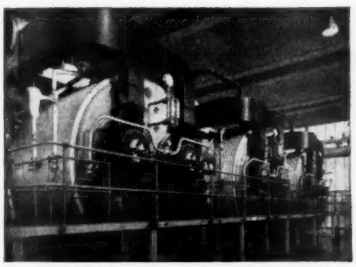

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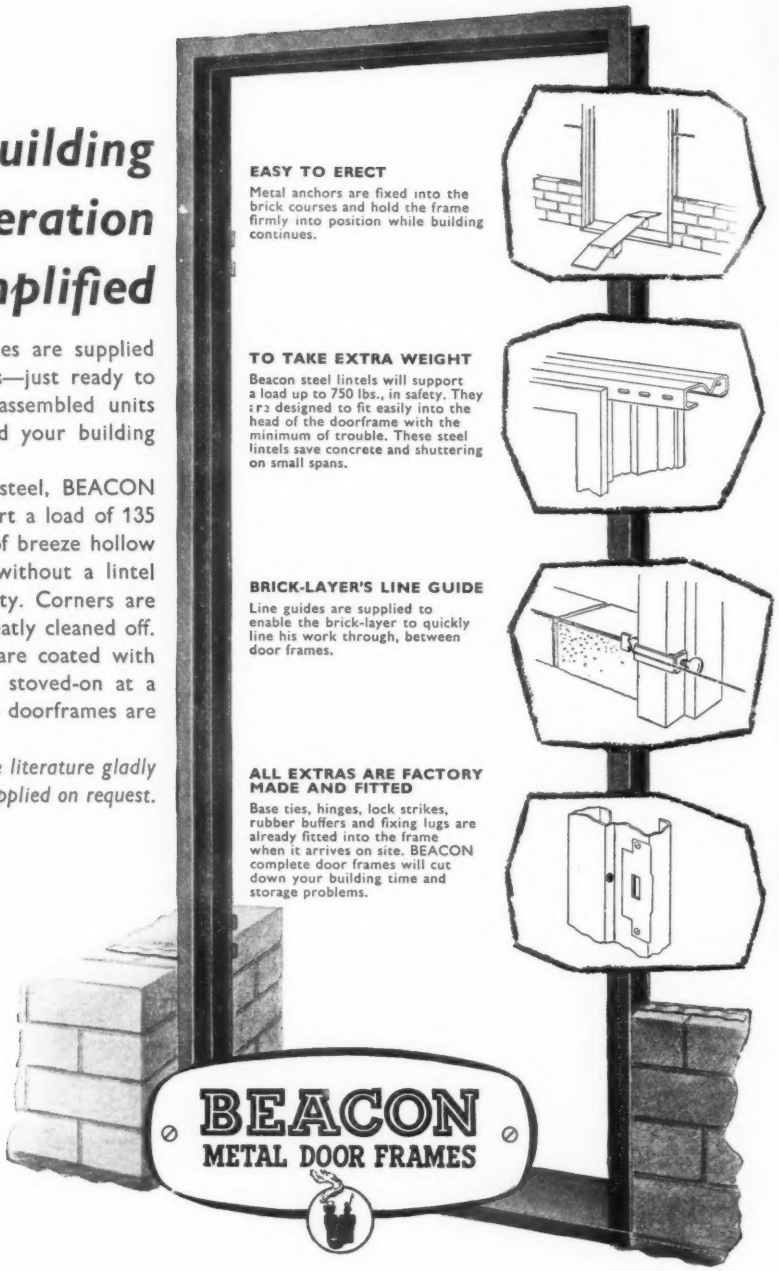
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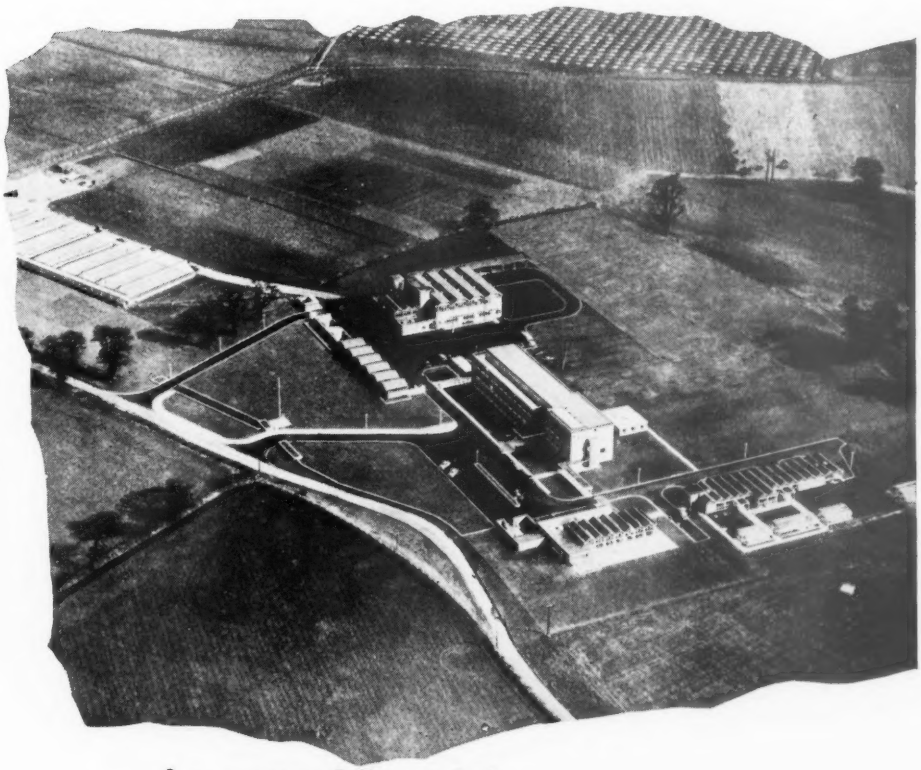

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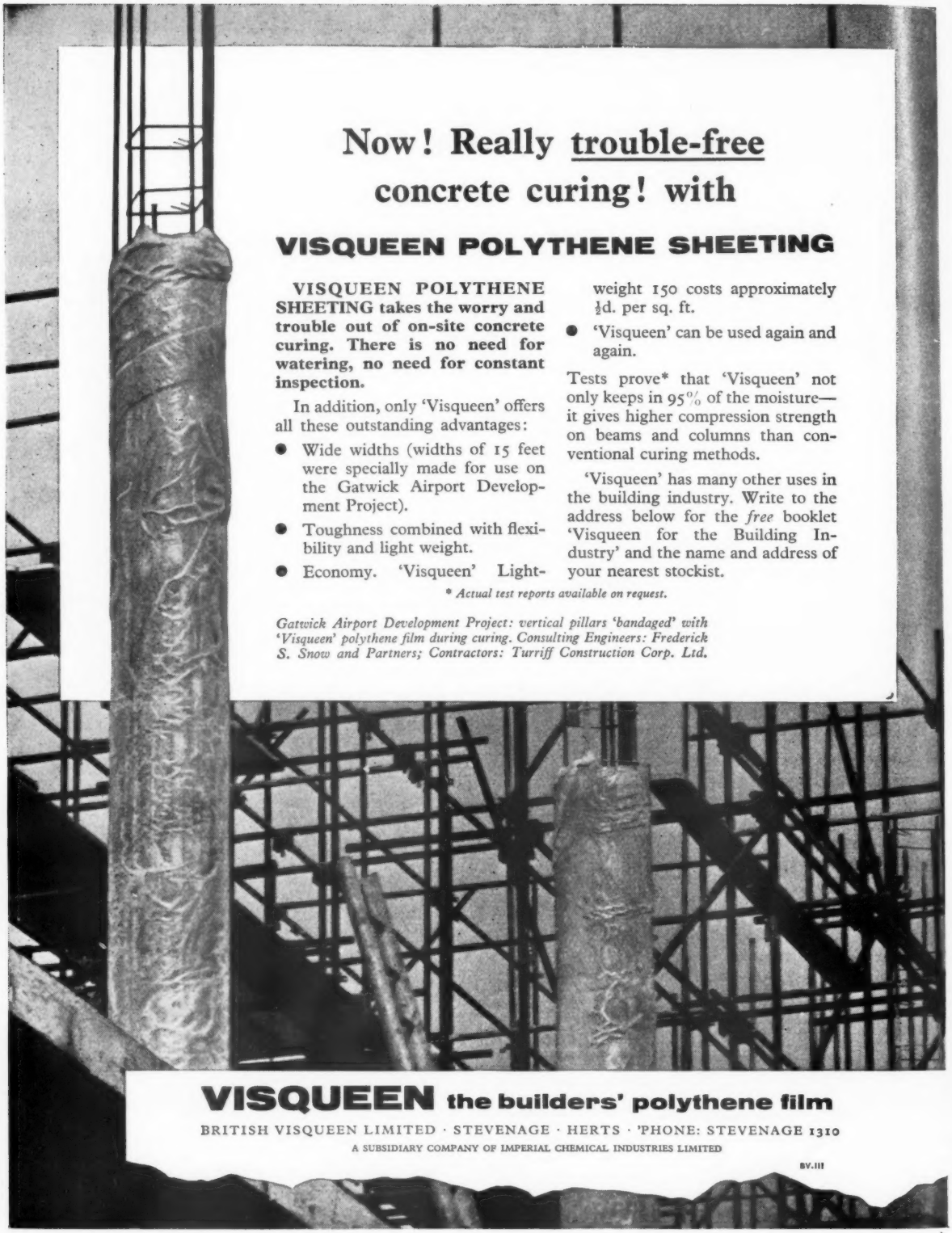

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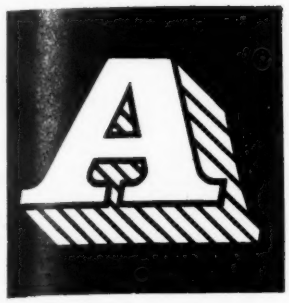

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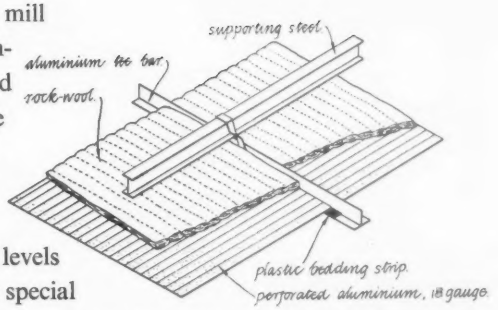

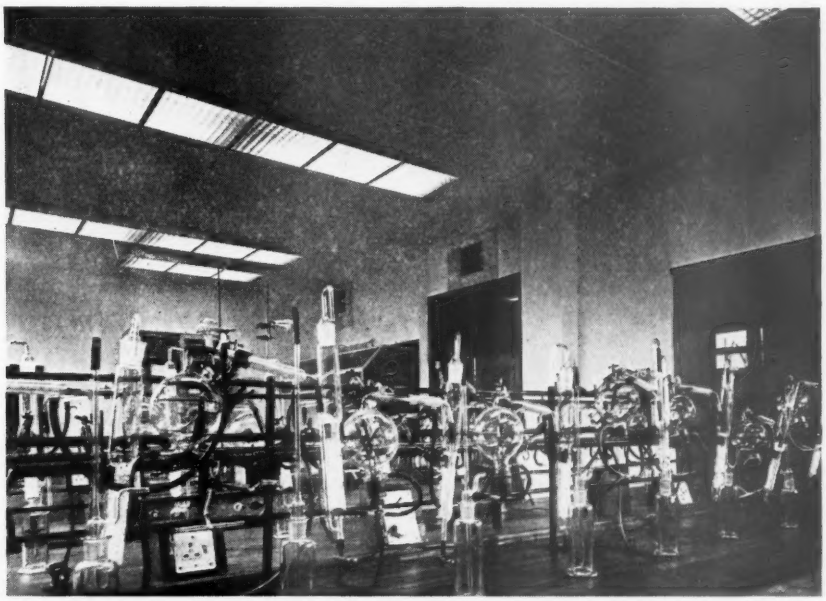

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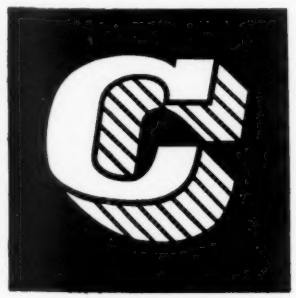

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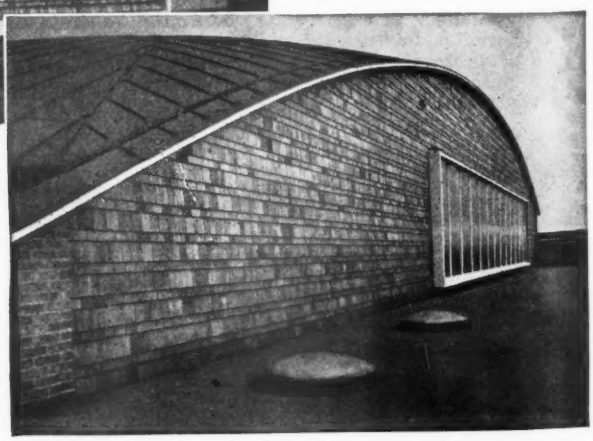

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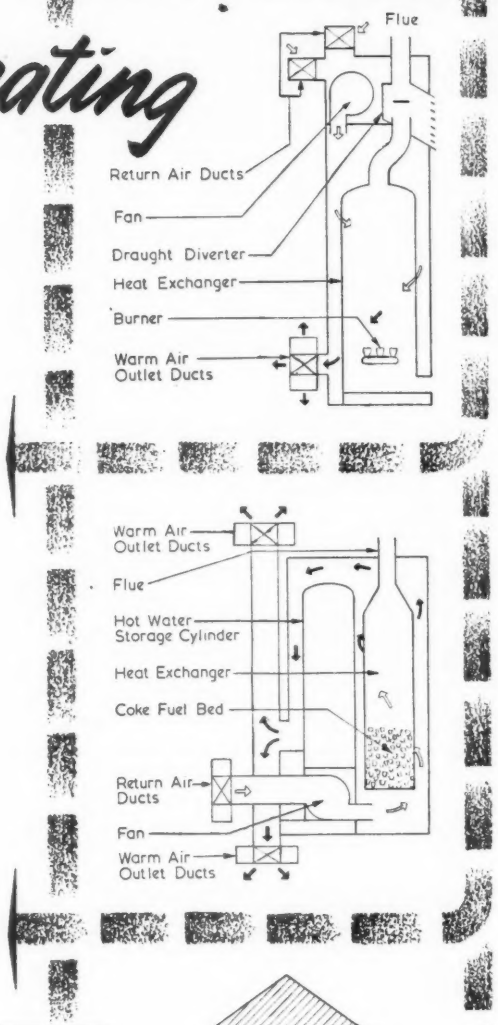
★ Full comfort standard—less draughts, uniform room heating. Cool air in summer.

★ More scope for the Designer—small space requirements of unit meaning greater freedom of planning.

★ Smokeless—whether fuelled by gas or coke.

★ Cleanliness—since the warm air is directed downwards at low level and at sufficient speed, discolouration of decorations is avoided.

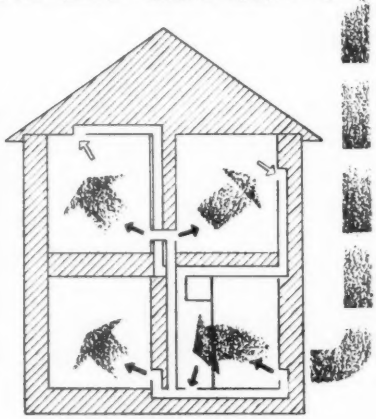
★ Domestic hot water—usually combined in one unit.



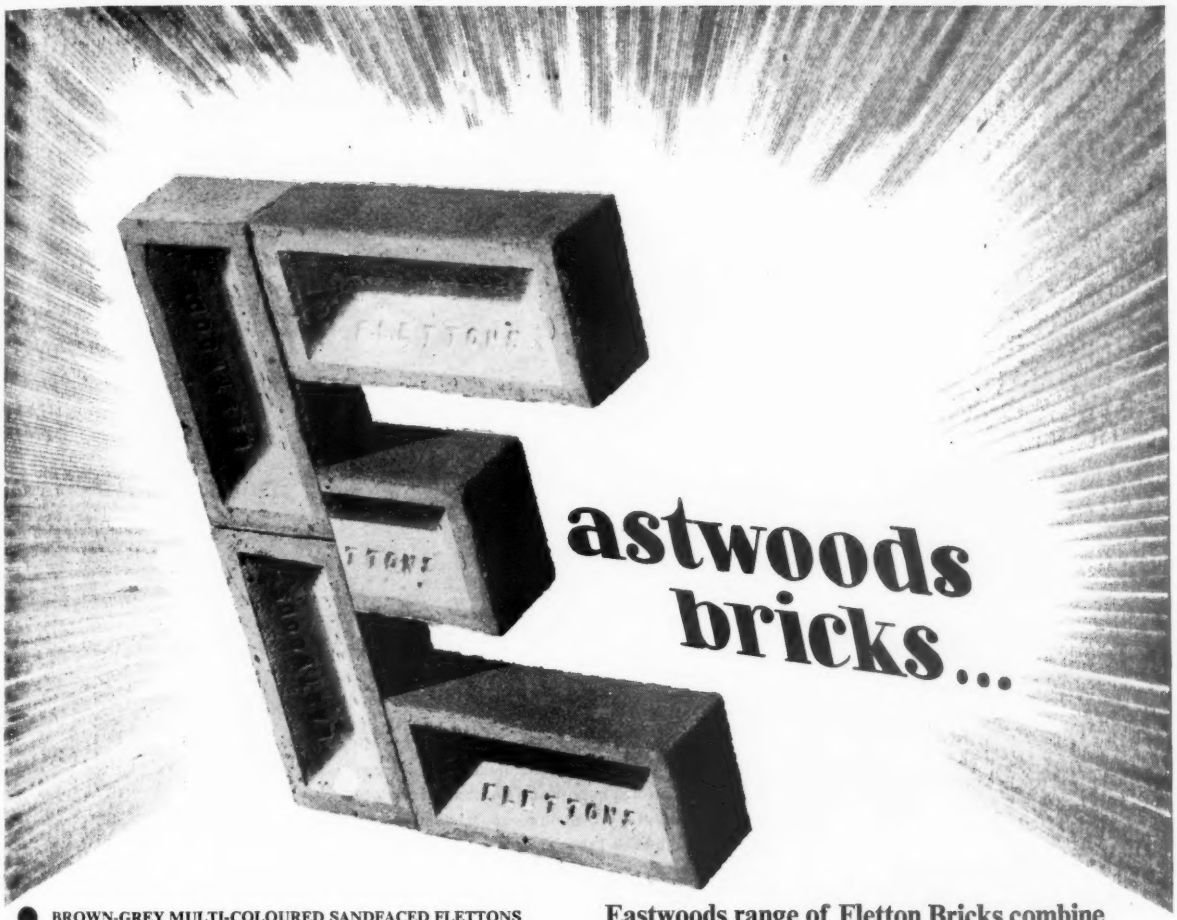
Warm Air Appliances

in a wide range of outputs

are available to suit new buildings.



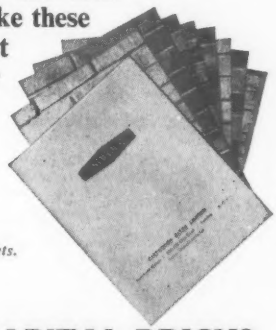
Technical information and advice on all heating problems may be obtained from your Area Gas Board or the GAS COUNCIL, 1 Grosvenor Place, S.W.1.



astwoods bricks...

- **BROWN-GREY MULTI-COLOURED SANDFACED FLETTONS**
  A pleasing sand-faced brick of attractive appearance with colours ranging from red-brown to buff.
  These bricks are durable and withstand a high crushing strain.
- **DARK MULTI-COLOURED SANDFACED FLETTONS**
  These dark sandfaced multi-coloured facing bricks are unaffected by climatic conditions.
  The finished effect can be widely and attractively shown by variation in bonding and pointing.
- **RIDGEFACED MULTI-COLOURED FLETTONS**
  A diagonally lined facing brick of considerable character.
  Its rustic and rugged appearance and the warm tones of reds and buffs make this brick very suitable for housing development.
- **PLAIN FLETTONS**
  A general purpose brick recommended for its strength and uniformity and very suitable for all building purposes.

Eastwoods range of Fletton Bricks combine economy with durability and their colours and textures make these bricks some of the finest facings yet produced for housing schemes.



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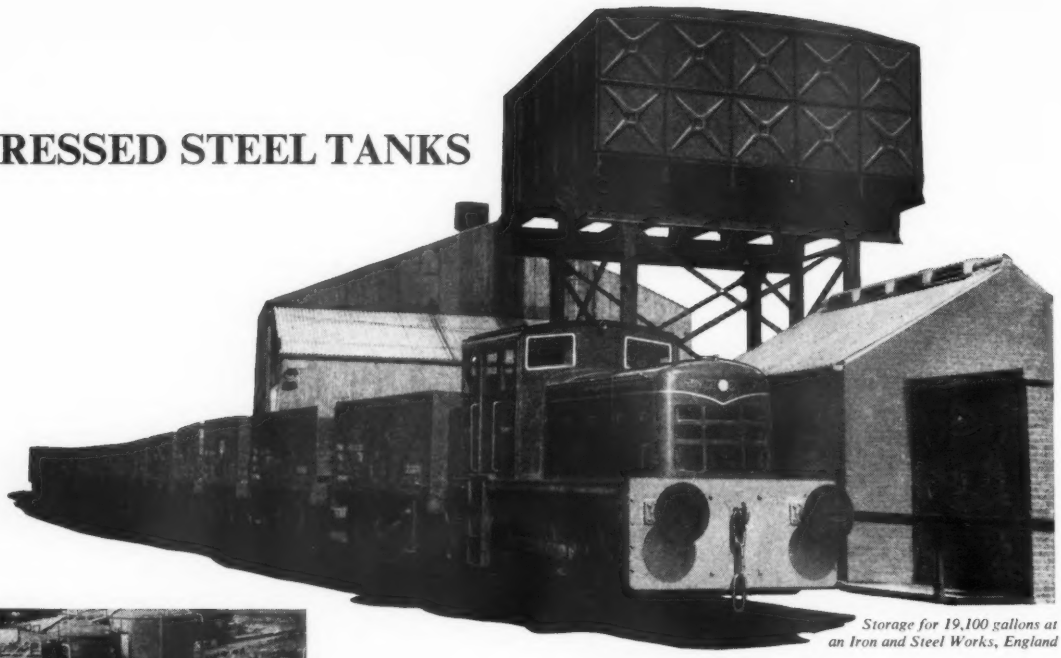
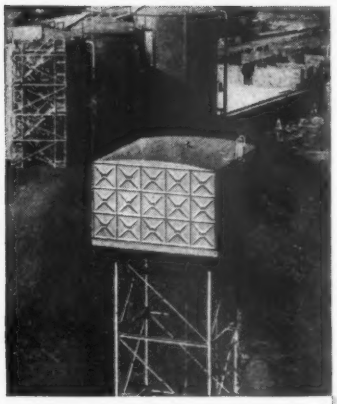
PRESSED STEEL TANKS

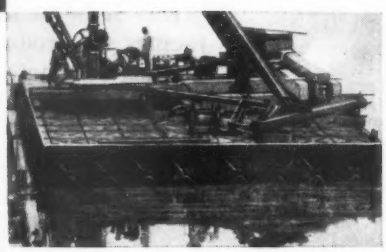


Storage for 19,100 gallons at an Iron and Steel Works, England

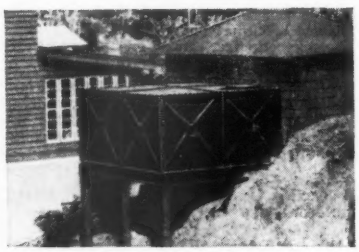


Storage for 34,000 gallons at an Oil Refinery, Aden

The unit method of construction enables Braithwaite Pressed Steel Tanks to be supplied in an unlimited range of capacities and to be conveyed to and erected in positions unsuitable for other forms of construction. In addition to providing adequate liquid reserves for many industrial needs, Braithwaite Tanks are playing an increasing part in bringing essential services and improving the standards of living to established communities and are a means of providing many of the basic amenities where backward areas are being opened up and developed.



A pontoon for civil engineering work made from units built with pressed steel tank plates



Storage for 1,400 gallons at a tea garden, Ceylon

Storage for 65,100 gallons for a rural community, Belgian Congo

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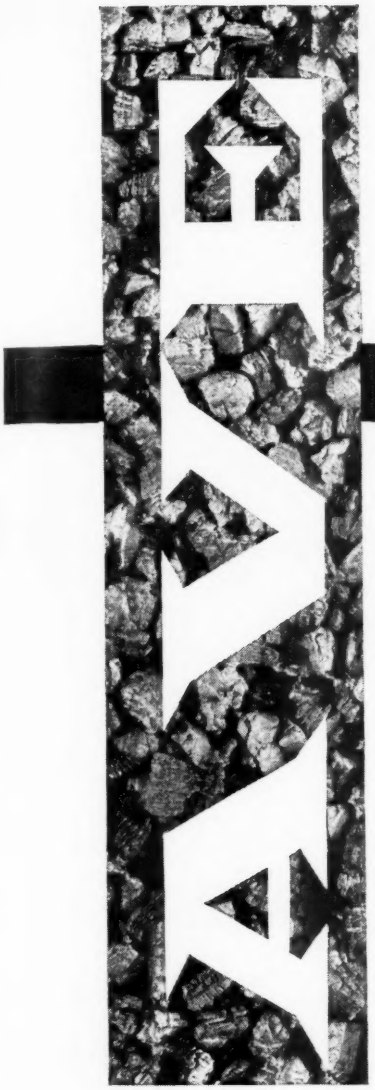

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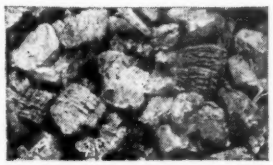

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I used to work naked as the day I was drawn. Of course I wasted heat — and therefore fuel — but who cared? Then one day, a bright spark from Fibreglass told the Manager that I was wasting nearly one ton of coal a year through each foot of my length.

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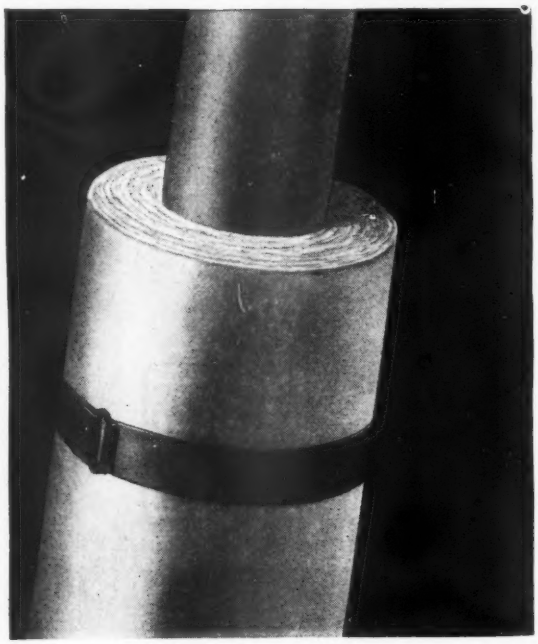

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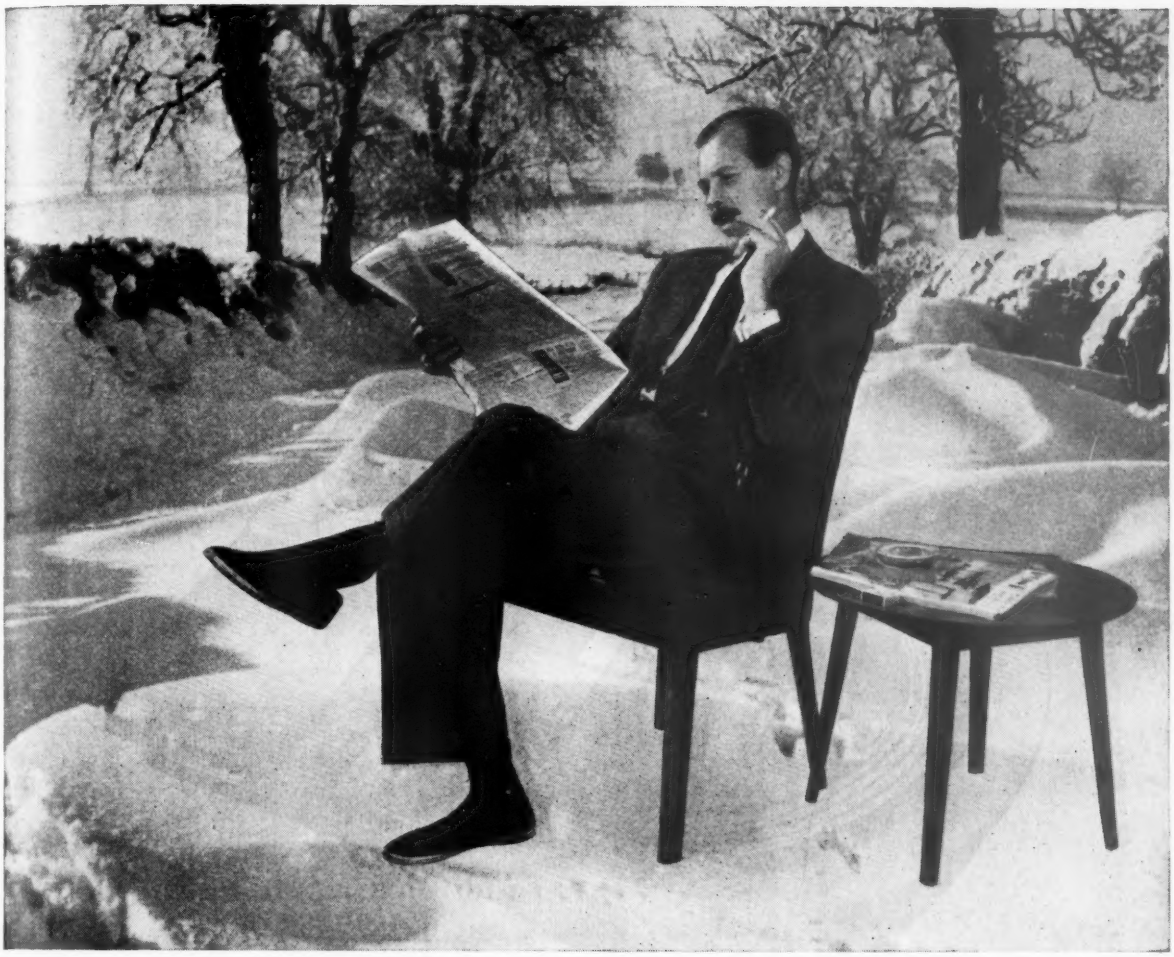
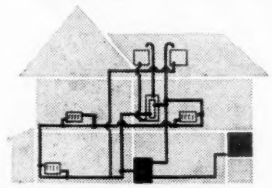


"Open plan" living demands modern heating



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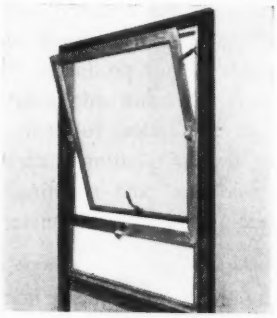
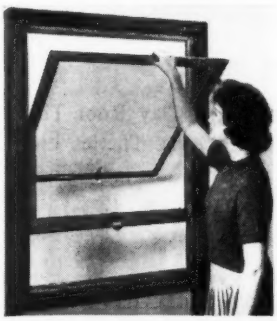


1. *Open for ventilation*

2. *Releasing the casement*



3. *Reversing the casement*

4. *Cleaning the outside*

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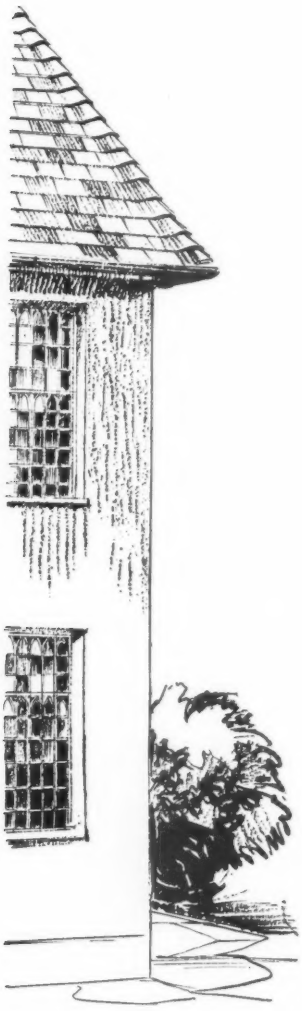
From foundation to roof.



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Bush House, Birmingham.

Photograph by courtesy of the "Birmingham Post"

Architects:
Harry W. Weedon, F.R.I.B.A. & Partners
in co-operation with
A. G. Sheppard Fidler, M.A., F.R.I.B.A., A.M.T.P.I.,
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Building & Civil Engineering Contractors:
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Gypunit Partitions installed by
Gyproc Products' Contracts Department.

GYPROC AT BIRMINGHAM

provided an attractive means of dividing space whilst permitting flexibility for the future in the office layout at Bush House

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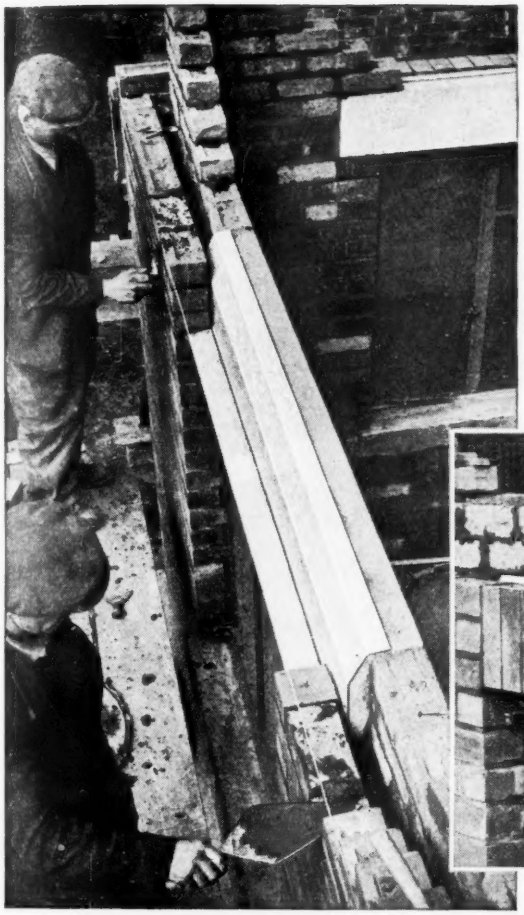
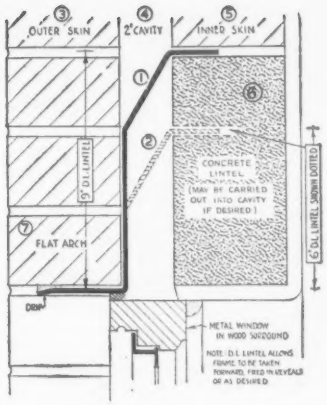


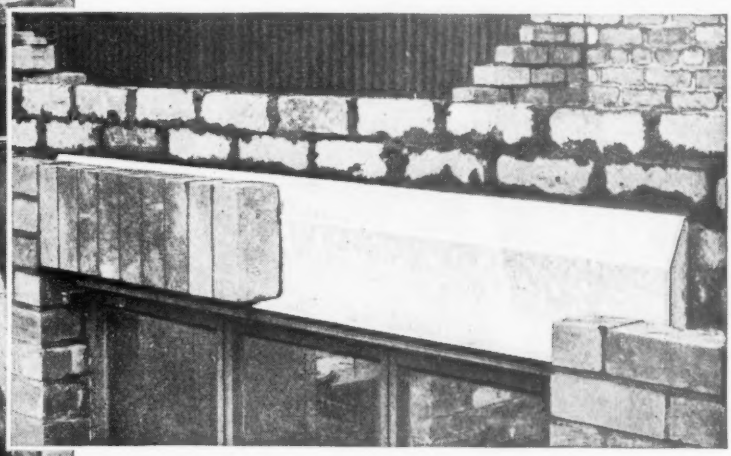
SECTION SHOWING TYPICAL DETAIL

(1) 9 in. Dorman Long Lintel
(2) 6 in. Dorman Long Lintel (shown dotted)
(3) Outer skin
(4) Cavity
(5) Inner skin
(6) Inside concrete lintel (carried out into cavity if so desired)
(7) Flat arch

The wide 'turn-in' of the Dorman Long Lintel allows the cavity to be varied from 2 in. to 2¾ in. in width.

Patent No. 694214


3 OUTER SKIN
4 2" CAVITY
5 INNER SKIN
1
6
2
9" D.L. LINTEL
CONCRETE LINTEL (MAY BE CARRIED OUT INTO CAVITY IF DESIRED)
6" D.L. LINTEL SHOWN DOTTED
7 FLAT ARCH
DRIP
METAL WINDOW IN WOOD SURROUND
NOTE: D.L. LINTEL ALLOWS FRAME TO BE TAKEN FORWARD, FIXED IN REVEALS OR AS DESIRED



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IN HOT-DIP GALVANIZED STEEL, FOR USE AT THE HEADS OF OPENINGS IN EXTERNAL CAVITY WALLS

Comes on site to required length ready to fix.
Large saving in site labour costs.
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Canada Trend House—illustrating Maple Flooring in lounge.

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Hard, heavy, creamy-white in colour—works easily.

TYPICAL USES — Flooring; furniture; dowels.

SPECIAL ADVANTAGES — Hard and smooth-wearing surface; takes high polish; excellent resonance properties; turns exceptionally well; good gluing properties.

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Hard-wearing, wide-utility hardwood of uniform texture, from light yellow to reddish brown.

TYPICAL USES — Flooring; furniture; interior trim; ladder rungs.

SPECIAL ADVANTAGES — Strong and resistant to impact; hard and smooth-wearing surface; uniform texture; easily stained.

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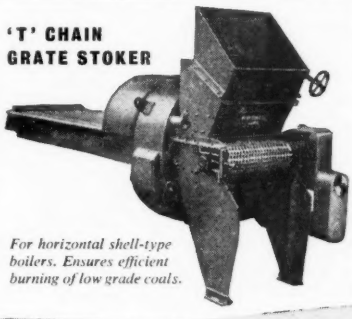
(Plywoods also free of import licence)

For further information on Canadian Woods, contact: Commercial Counsellor (Timber), Canada House, London, S.W.1.

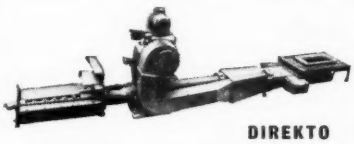
RILEY ROBOT

Hopper feed. Suitable for sectional boilers in domestic hot water or space heating systems—and vertical boilers for steam-raising.

'T' CHAIN GRATE STOKER



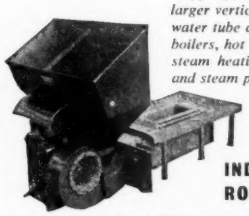
For horizontal shell-type boilers. Ensures efficient burning of low grade coals.



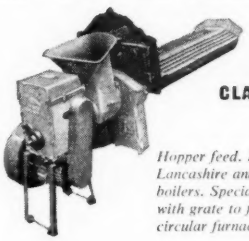
DIREKTO

Bunker feed. For sectional boilers in domestic hot water and space heating systems. Also for vertical boilers used in steam-raising. Feeds direct from bunker to boiler below floor level.

Hopper feed. For the larger vertical boilers, water tube and locomotive boilers, hot water and steam heating systems and steam processes.



INDUSTRIAL ROBOT



CLASS 'B'

Hopper feed. For Cornish, Lancashire and Economic boilers. Specially designed with grate to fit into circular furnace flues.

IT IS AN OFFENCE TO EMIT DARK SMOKE

Under the Clean Air Act it is now an offence to emit dark smoke. The problem of ensuring smokeless combustion within the meaning of the Act without costly conversions can be solved by the installation of Riley Chain Grate or Under-feed Mechanical Stokers. Write for full technical information.

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By Courtesy of
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Write for detailed brochure to

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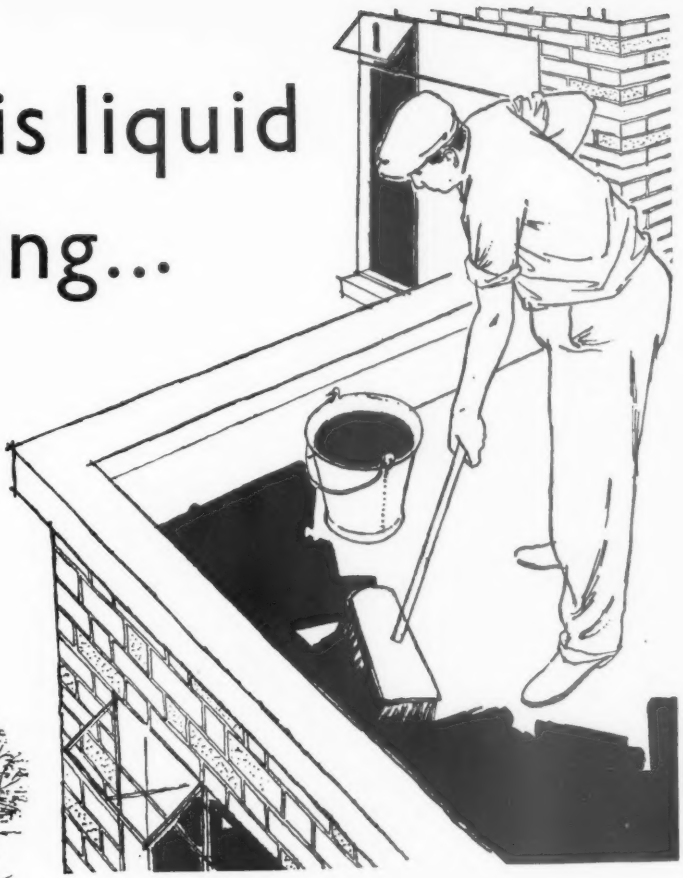

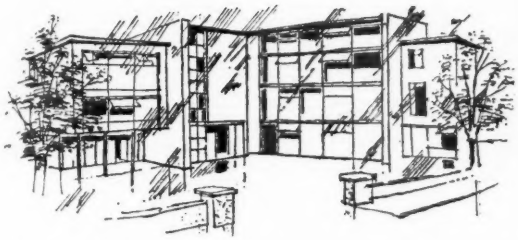

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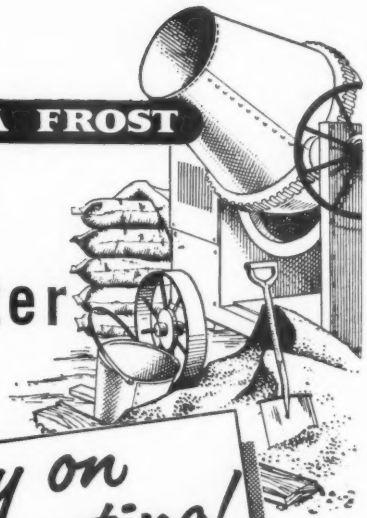

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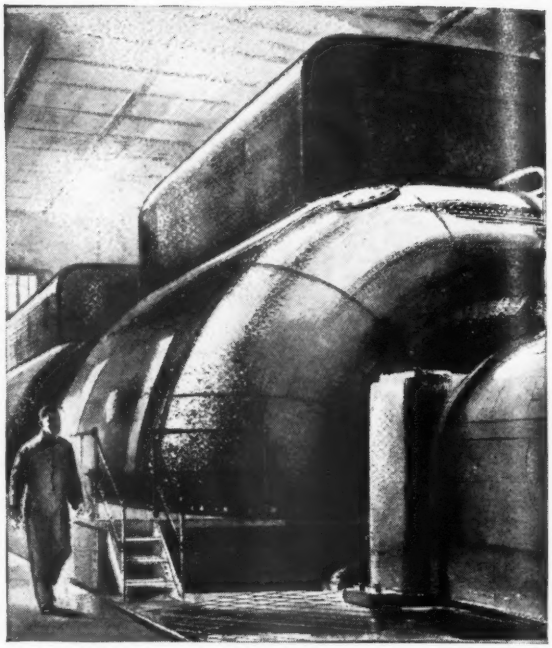

The world's largest Generators will help to fill the demand for still more power

The development of nuclear energy for generating electricity is still front-page news. Less publicised, though no less outstanding, are new developments in "conventional" generating plant. The turbo-alternator shown here is a 550,000 kilowatt unit – twice the capacity of the next largest on order for the Central Electricity Generating Board. It has been designed for the projected new power station at Thorpe Marsh. For Blythe 'B', another new station, 275,000 kilowatt in-line units are on order. They will be powered by steam at 2,350 lb. per sq. in. and 1,050°F, with reheat to 1,000°F.

Nuclear power will play an important part in meeting the ever-increasing demand for electricity. Work is now in progress on the first three nuclear power stations, at Bradwell, Berkeley and Hinkley Point. By 1966/7 some 5 to 6 million kilowatts of nuclear-generated electric power will be available.

Though these projects will not be completed for some time, the Central Electricity Generating Board plays an important part in today's fight against inflation. Power stations are being built at a cost no greater than in 1948 – £50 per kilowatt installed. And, although the output of the industry has doubled since 1948, the increase in manpower is only about one-third.

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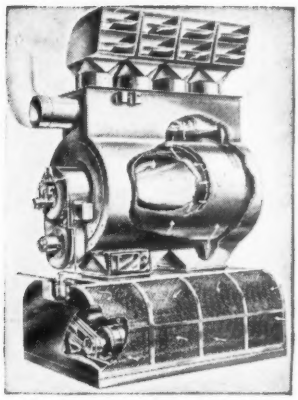

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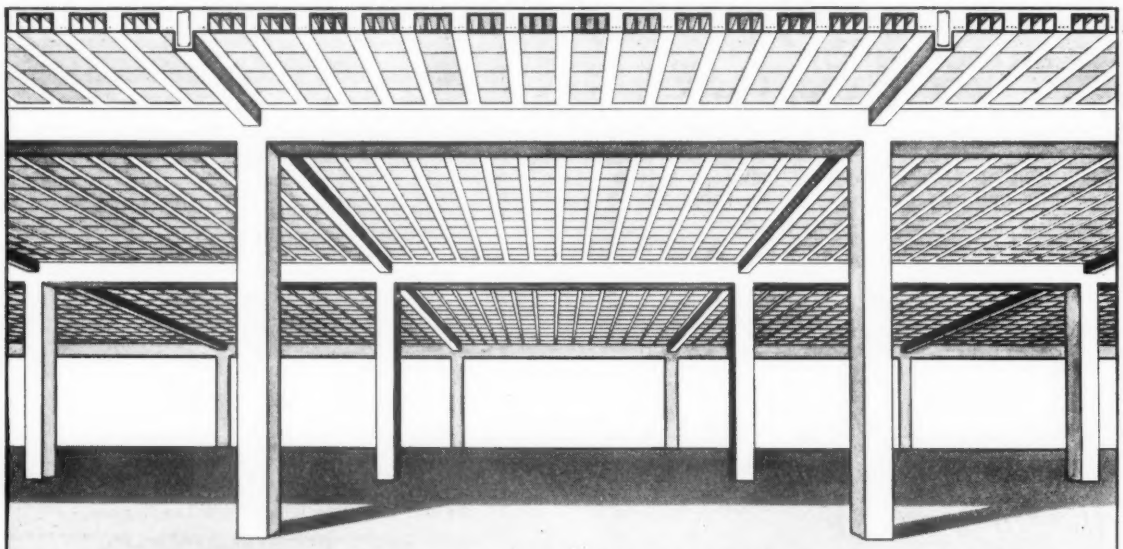

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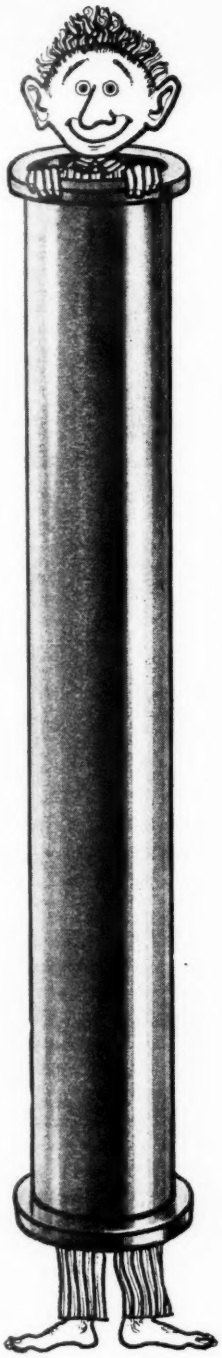

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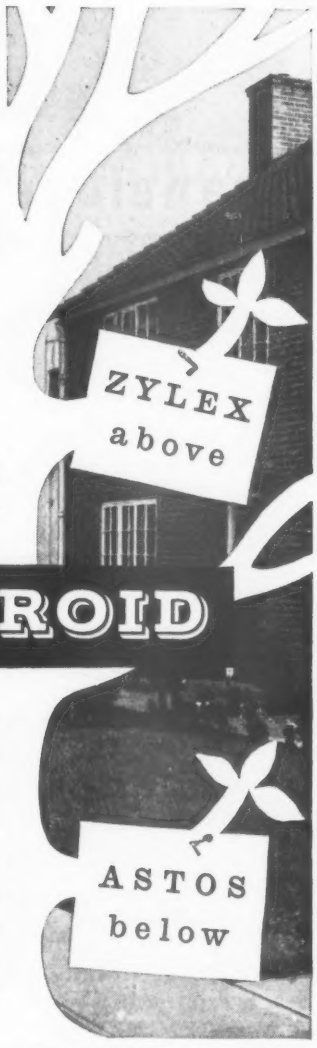

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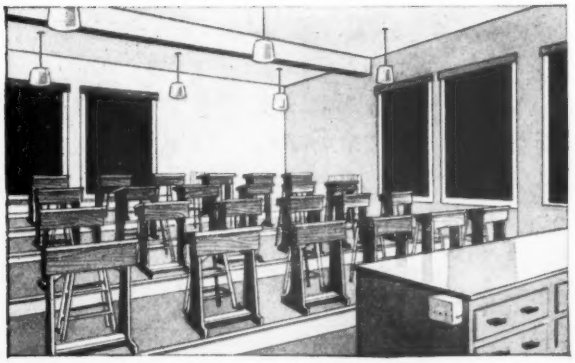

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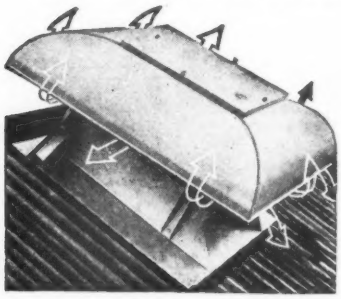

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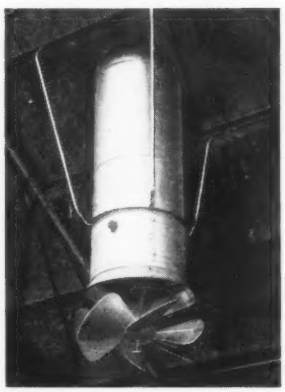

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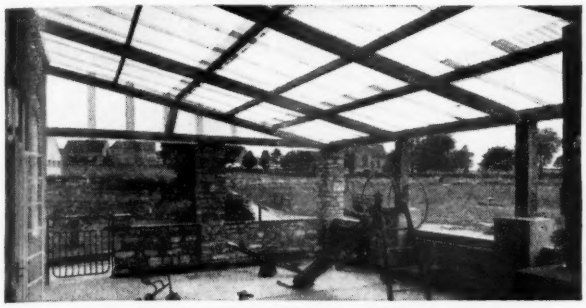
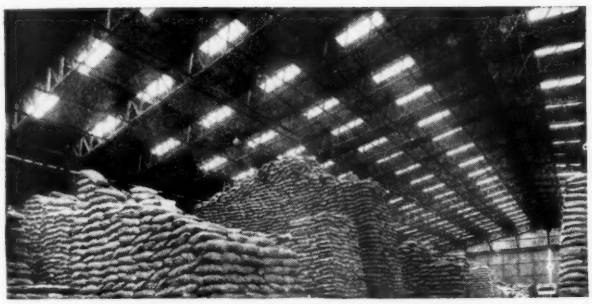


keeps this covered playground at Nympsfield, Gloucestershire, light and dry.

translucent



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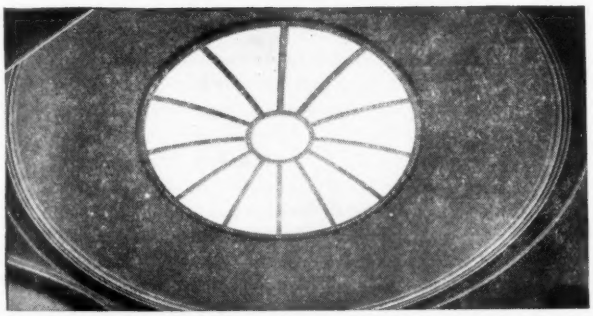

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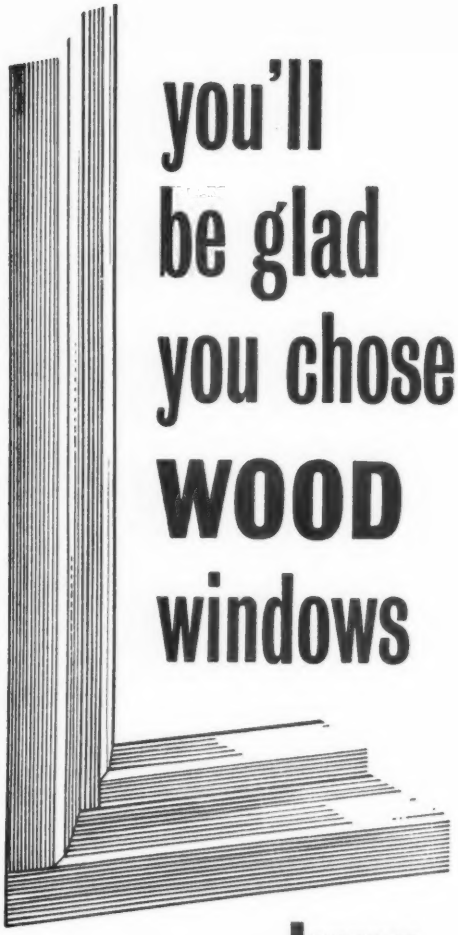

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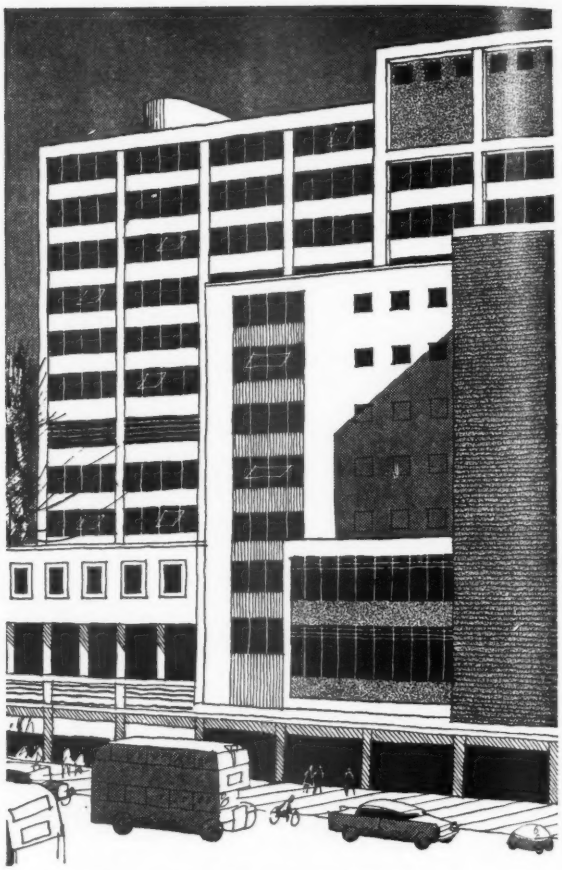

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